EXHIBIT E

User Guide for CHECKMATE by Geotab

Fleet recording, reporting and analysis solution

GEOTAB USER GUIDE

1. TABLE OF CONTENTS

2. QUICK GUIDES

Testing your GO units

What you should have

Vehicle Test Key	A vehicle test key is a standard GO key that has been programmed as a Vehicle Test Key. It is also sometimes referred to as a Debug Key. Refer to the User Guide on how to create a Vehicle Test Key in Checkmate. This key is used to toggle the GO unit in and out of test (debug) mode.	
Full GO Kit, installed	A GO kit includes the GO unit, a GPS antenna, the wiring harness, RF antenna (for RF kits), a touch-key housing (data head), a standard driver key (for non-RF kits), etc. The kit should be installed into a vehicle, as per the GO Installation Guide. If the unit has never been installed, i.e. from the factory, it is by default in test (debug) mode.	

Basic Rules to be aware of

- Inserting any key will switch **off** the Vehicle Test (Debug) mode on the GO unit
- Inserting a Vehicle Test (Debug) key will toggle the Vehicle Test (Debug) mode on the GO unit
- When the vehicle ignition is off, the LED on the data head should be flashing constantly
- When the vehicle ignition is ON, the LED on the data head should be off permanently
- You can only insert a key when the unit is in download mode, i.e. ignition is off and LED is flashing
- When a key is inserted and is busy uploading from or downloading to a GO unit, it will 'tick' (quick, short beep) a few times a second and the data head LED will remain on, while it is busy.
- A double-beep after a key is inserted indicates that the task is complete and that you may remove the key.

Testing a Standard GO unit (non-RF)

Step	More Info	What you will hear (GO unit Buzzer)	What you will see (data head LED)
1. Install GO unit	Follow the GO Installation Manual instructions on how to install a GO unit into a vehicle. Ensure it has a clean power source.	3 short beeps -pause- 1 short beep	
2. Start vehicle	Turn on the vehicle ignition and start the engine. When unit gets satellite acquisition (could take a few minutes), a single long beep will be heard	1 short beep -pause- 1 long beep	

3. Drive vehicle	Once you hear the long satellite acquisition beep, take the vehicle out for a drive, to generate some trip data. Each time the unit logs a record, it will beep.	1 short beep (on-going)	
4. Turn off vehicle	Once you have taken the vehicle out for a trip and have generated some trip data, return to your office and turn the vehicle off. You will hear one short beep, indicating the ignition change.	1 short beep	
5. Get Trip Data	Once you have turned off the ignition and the data head LED is flashing constantly again, insert a standard driver data key into the data head (supplied with kit). When the download is complete, you will hear a double-beep. Inserting any key into the data head will turn off vehicle test (debug) mode.	2 short beeps (double beep)	
6. Follow the VIEW YOUR TRIP DATA checklist	To view the trip data in Checkmate, follow the View Your Trip Data checklist	N/A	N/A

Testing a RF-Enabled GO unit

Please Note: This process requires the GEOPORT RF server to be installed and running prior to this test.

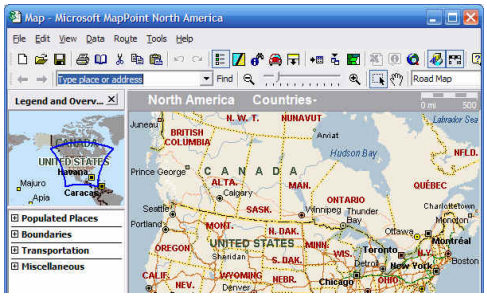
Step	More Info	What you will hear	What you will see
1. Install GO unit	Follow the GO Installation Manual instructions on how to install a GO unit into a vehicle. Ensure it has a clean power source.	3 short beeps -pause- 1 short beep	
2. Start vehicle	Turn on the vehicle ignition and start the engine. When unit gets satellite acquisition (could take a few minutes), a single long beep will be heard	1 short beep -pause- 1 long beep	
3. Drive vehicle	Once you hear the long satellite acquisition beep, take the vehicle out for a drive, to generate some trip data. Each time the unit logs a record, it will beep.	1 short beep (on-going)	
4. Turn off vehicle	Once you have taken the vehicle out for a trip and have generated some trip data, return to your office and turn the vehicle off. You will hear one short beep, indicating the ignition change. After that, the unit will attempt to communicate with the RF base station. During this process you will hear 2 or 3 beeps (2 beeps when trying to communicate and 3 beeps when communicating with the RF base station)	1 short beep -pause- 2 (or 3) short beeps	
5. Turn off Vehicle Test (Debug) mode	Insert the Vehicle Test Key into the data head. You will hear a double-beep indicating that debug mode has been turned off, remove the key.	2 short beeps	
6. Follow the VIEWING YOUR TRIP DATA checklist	To view the trip data in Checkmate, follow the Viewing Your Trip Data checklist	N/A	N/A

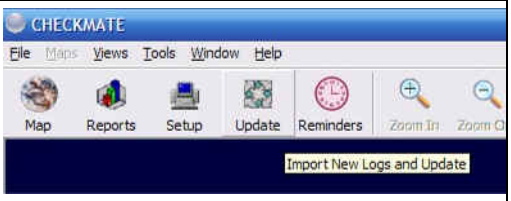
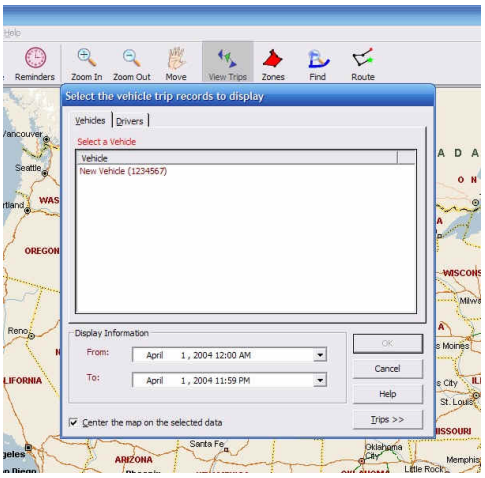
What do the other beeps mean?

If you experience something different other that what is mentioned above, refer to the following points:

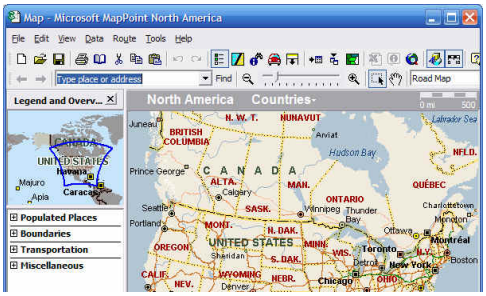
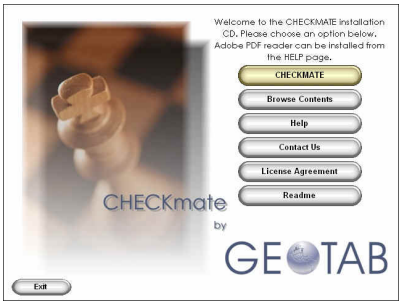
You Hear / See	What it means
6 beeps when ignition is on	The GPS antenna has not been connected, or there is a break in the GPS antenna wire. Check the connection.
1 long beep as I turn the vehicle off (RF-enabled GO units)	The unit cannot find the GEOPORT RF Server, possibly because it is out of range. Move the vehicle closer or reposition the GEOPORT RF antenna at the computer.
No beeps at all	The unit is probably not in Vehicle Test (Debug) mode. Insert a Vehicle Test Key.
LED stays flashing when ignition is on or off	The blue wire on the unit harness has not been wired correctly to the switched ignition. Refer to the GO Installation Manual for more information.

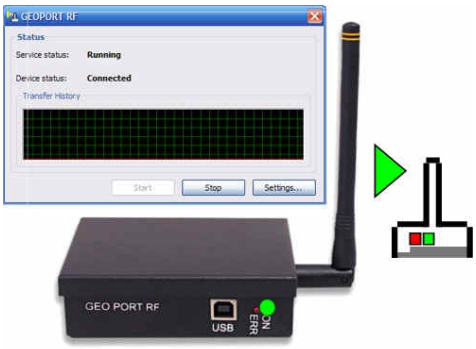
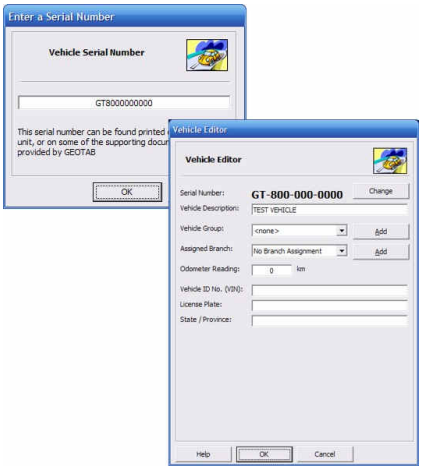
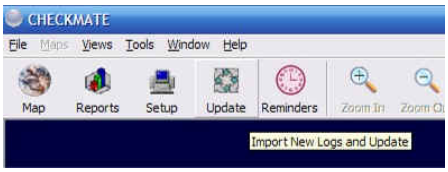
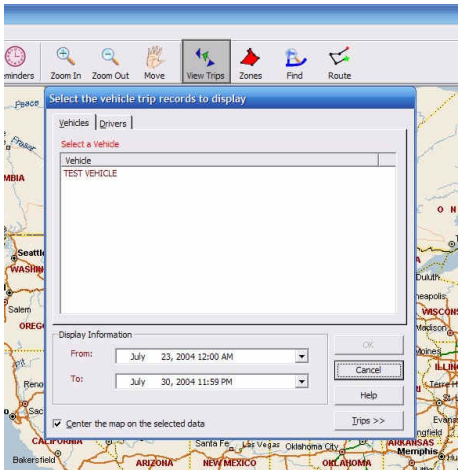
Viewing your data using a key

Action	Comments	Example
Install GO Unit	Refer to the TESTING YOUR GO UNITS and the GO Installation Guide, for more information	
Take your vehicle for a drive	Taking your vehicle out for a drive will generate some vehicle trip data that you will be able to view in Checkmate	
Upload your data to a key	Turn the ignition off, insert the standard blue GEOTAB GO key into the vehicle touch-key housing (data head) and pull it out when you hear a double-beep	
Install Microsoft MapPoint (optional)	Install the Microsoft MapPoint software from the MapPoint CD. After it is complete, run Microsoft MapPoint	
Install and launch Checkmate	Install the software from the CD. After installation, double-click the CHECKMATE icon on your desktop to launch Checkmate	

Install your GEOPORT Downloader	Insert the GEOPORT USB downloader into an available USB port. Wait for the operating system to automatically detect the device and prompt you to install the drivers, and then point to your "C:\Program Files\GEOTAB\Checkmate\drivers" folder when prompted. Once the drivers have been successfully installed, you should have a downloader icon with a green checkmark in it	
Download your data from the key	Insert the GEOTAB GO key (the same one that you inserted into the vehicle to upload the trip data) and wait until you get 6 double-beeps, then remove the key	
Import the trip data into you database	In Checkmate, click the UPDATE button on the main toolbar. Click NEXT, then FINISH on the wizard. Wait for the wizard to finish processing	
View your trip information on a map	Click the VIEW TRIPS button on the main toolbar. Click on the vehicle entry New Vehicle (xxxxxxx), and then click OK. The trip you just did should appear	

Viewing your data using GEOPORT RF

Action	Comments	Example
Install GO Unit	Refer to the TESTING YOUR GO UNITS and the GO Installation Guide, for more information. Write down the serial number of the GO unit, as you will need this later on. The number is on the black GO box or on the packaging of the kit, and is in the format GT-XXX-XXX-XXXX (where X can be a number or a letter).	
Install Microsoft MapPoint (optional)	Install the Microsoft MapPoint software from the MapPoint CD. After it is complete, run Microsoft MapPoint	
Install and launch Checkmate	Install the software from the CD. After installation, double-click the CHECKMATE icon on your desktop to launch Checkmate.	
Install and Launch GEOPORT RF	Install the GEOPORT RF software from the CD. After installation, double-click the GEOPORT RF Console icon on your desktop to launch GEOPORT RF.	

Install your GEOPORT RF Base Station	Insert the GEOPORT RF USB Downloader into an available USB port. Wait for the operating system to automatically detect the device and prompt you to install the drivers, and then point to your "C:\Program Files\GEOTAB\GEOPORT RF\Drivers" folder when prompted. Once the drivers have been successfully installed, click the Start button on the GEOPORT RF Console to start the service. When started, you should have a green arrow on the GEOPORT RF system tray icon.	
Add in your Vehicle into Checkmate	Before GEOPORT RF will download a vehicle's trip data via RF, the vehicle has to exist in Checkmate. To add in the vehicle, click the Setup button on the main toolbar in Checkmate. In the Setup Wizard, click Vehicles -> Vehicle Details -> Add. When prompted add in the serial number (GT-XXX-XXX-XXXX). Click OK. In the Vehicle Editor, enter in a valid vehicle description, and then click OK. Close down the Setup Wizard forms.	
Take your vehicle for a drive	Taking your vehicle out for a drive will generate some vehicle trip data that you will be able to view in Checkmate. When you return and turn the ignition off on the vehicle, the unit will communicate with the GEOPORT RF Server and transfer the recorded trip data via RF to the computer.	
Import the trip data into you database	In Checkmate, click the UPDATE button on the main toolbar. Click NEXT, then FINISH on the wizard. Wait for the wizard to finish processing	
View your trip information on a map	Click the VIEW TRIPS button on the main toolbar. Click on the vehicle entry New Vehicle (xxxxxxx), and then click OK. The trip you just did should appear	

Key Types

There are several different key types available within the CHECKMATE / GO system. Below is a list of the more common key types and their descriptions.

Key Type	Description	Trip Data Transfer
Driver Data Key	Standard Driver ID key that acts as a Driver ID key each time it is inserted into the vehicle unit, and is used to download standard trip data.	**Yes**
Driver ID Key	Standard Driver ID key used only to identify a driver when inserted into a vehicle unit. The key does not download any trip data.	No
Vehicle Programming Key	Standard key with special instructions on new parameter settings for vehicle units. This	No
Accident Data Key	Standard key used to extract special accident data memory from vehicle. The accident trip data is a separate memory bank that records second-by-second trip information of the last 90 minutes of driving.	**Yes**
Lost Data Key	Standard key used to program a vehicle unit to extract a complete memory dump of the unit, when recently extracted data goes missing. You will require 2 Driver Data Keys for the actual trip data extraction, once the unit has been programmed.	No
Firmware Key	Standard key used to update the firmware of the GO unit. Firmware updates must be handled very carefully. More information will be provided on updating the firmware later on.	No
Test Key	Standard key used to toggle the unit between debug mode and standard mode. When a unit is in debug mode, the unit will beep every time it writes a log. Inserting any key will turn off debug mode.	No

3. INSTALLING YOUR SOFTWARE

Welcome to GEOTAB®, your Fleet GPS Tracking Solution®. This guide has been designed to assist you in setting up, configuring and getting the most out of the CHECKMATE® System and your fleet of GEOTAB GO® vehicles. This guide covers all basic points of the CHECKMATE vehicle management software package. For help on advanced settings please refer to our Advanced Settings Guide, also found at www.geotab.com/Downloads.

We recommend that you read through this entire guide before you begin adding and configuring your vehicles into the system, so that you get a good understanding of what your options are and how your configuration choices will affect how your fleet will be managed.

Considerations

Before continuing, here are some questions you need to answer that are important to the successful implementation of the GEOTAB solution:

#	**Question**	***Comments***
1.	Are my GEOTAB GO units installed in my vehicles?	*Refer to our Vehicle Installation Guide for more information.*
2.	What type of download mechanism will I be using?	*Will you be using wireless downloads (GEOPORT RF) or key downloads?*
3.	Do I require driver accountability?	*If you have different drivers sharing vehicles and you would like to know which drivers belong to which trips, you should answer yes.*
4.	Do I have a Windows-based computer that means the minimum requirements for Checkmate and / or GEOPORT RF?	*See below for the respective system requirements.*
5.	What type of database will I be using?	*CHECKMATE currently supports both Microsoft SQL Server 2000 and Microsoft Access databases. If you have a large fleet and / or require a large number of people to use CHECKMATE, you should consider Microsoft SQL Server. It is very important that you choose the right platform up front.*
6.	Am I using Microsoft MapPoint® or ESRI-based maps for my application?	*If you are in USA, Canada or parts of western Europe, Microsoft MapPoint should be sufficient as a mapping platform. For any other country, you would need to consider ESRI-based maps. Please consult your local GEOTAB representative if you are unsure as to the availability of maps for your area. If you are using Microsoft MapPoint, you should install it prior to installing CHECKMATE.*
7.	Will this machine be my GEOPORT RF Server and CHECKMATE machine, or will I separate them?	*It is possible to use one machine for both functions, if the machine is located in a suitable place for RF reception from the vehicles. If you wish to separate the two functions, ensure that you conform to GEOTAB's license requirements.*

System Requirements

This section covers the minimum system requirements for each GEOTAB component, as recommended by GEOTAB or, in the case of the Microsoft products, by Microsoft themselves.

GEOTAB Checkmate 4.x (with GEOPORT Key Reader)

Component	Requirement
Computer / Processor	Computer with Pentium 133 megahertz (MHz) or higher processor; Pentium III recommended
Memory	128 MB of RAM; other programs running simultaneously may require additional memory
Hard Disk	Required size available will vary depending on your configuration. At least 150 MB free for a standard installation. You should allow additional growth of your database (if on local machine), temporary dump files and ESRI-based maps (if used)
Operating System	Windows 98 Second Edition, Windows NT 4.0 with Service Pack 6a (SP6a) or later,* Windows 2000, or Windows XP or later
Drive	CD-ROM drive
Display	Super VGA (800 × 600) or higher-resolution monitor with 256 colors
Peripherals	Microsoft Mouse, Microsoft IntelliMouse®, or compatible pointing device; a free USB port

GEOTAB GEOPORT RF Server

Component	Requirement
Computer / Processor	Computer with Pentium 133 megahertz (MHz) or higher processor; Pentium III recommended
Memory	128 MB of RAM; other programs running simultaneously may require additional memory
Hard Disk	Required size available will vary depending on your configuration. At least 100 MB free for a standard installation (including Microsoft .Net Framework 1.1)
Operating System	Windows NT 4.0 with Service Pack 6a (SP6a) or later,* Windows 2000, or Windows XP or later
Drive	CD-ROM drive
Display	Super VGA (800 × 600) or higher-resolution monitor with 256 colors
Peripherals	Microsoft Mouse, Microsoft IntelliMouse®, or compatible pointing device; a free USB port

GEOPORT RF Server Installation also requires Microsoft .Net Framework 1.1; please refer to www.microsoft.com/net for more information on .Net.

Microsoft SQL Server 2000 (optional)

Please refer to www.microsoft.com/sql for more information. Requirements are based on Microsoft SQL Server Standard Edition.

Component	Requirement
Computer / Processor	Computer with Pentium 166 megahertz (MHz) or higher processor; Pentium III recommended
Memory	64 MB of RAM; other programs running simultaneously may require additional memory

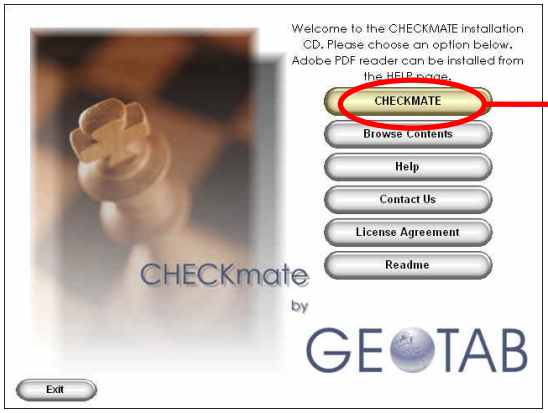
Hard Disk	Required size available will vary depending on your configuration. At least 250 MB free for a standard installation. Database will grow considerably when trip data gets imported, please allow sufficient space for growth.
Operating System	Windows NT 4.0 with Service Pack 6a (SP6a) or later,* Windows 2000, or Windows 2003 (You need to use Evaluation or Developer Edition for Windows XP)
Drive	CD-ROM drive
Display	Super VGA (800 × 600) or higher-resolution monitor with 256 colors
Peripherals	Microsoft Mouse, Microsoft IntelliMouse®, or compatible pointing device; a free USB port

Installing Microsoft MapPoint

Please refer to www.microsoft.com/mappoint for more information on how to install Microsoft MapPoint 2004.

Installing Checkmate

To install Checkmate, Insert the CHECKMATE CD. The Startup form should automatically run (otherwise browse to the CD and double-click Launch.exe found in the CD root).



The main form gives you options to install, view help, license information and contact details. Click **CHECKMATE** to install the software.

In the Install Products section, you have the option of installing Checkmate or GEOPORT RF. There are also direct links to the Setup Guides, which will assist you in preparing and setting up your environment. Click **Install CHECKMATE** to start the Checkmate installation process. Follow the easy Installation wizard to get the Checkmate software installed. When it is completed, you may be prompted to reboot your machine, DO NOT IGNORE THIS.

To launch CHECKMATE, simply click the CHECKMATE shortcut on your desktop.

GEOTAB has operations solutions for fleets of all makes and sizes. From fuel tax reporting to risk management and proof of activity, GEOTAB makes data collection and reporting a simple, daily fleet management tool.

If you have any questions about your specific fleet reporting requirements, please contact your local GEOTAB representative and we will ensure you receive the information you require to integrate the right solution for your operation.

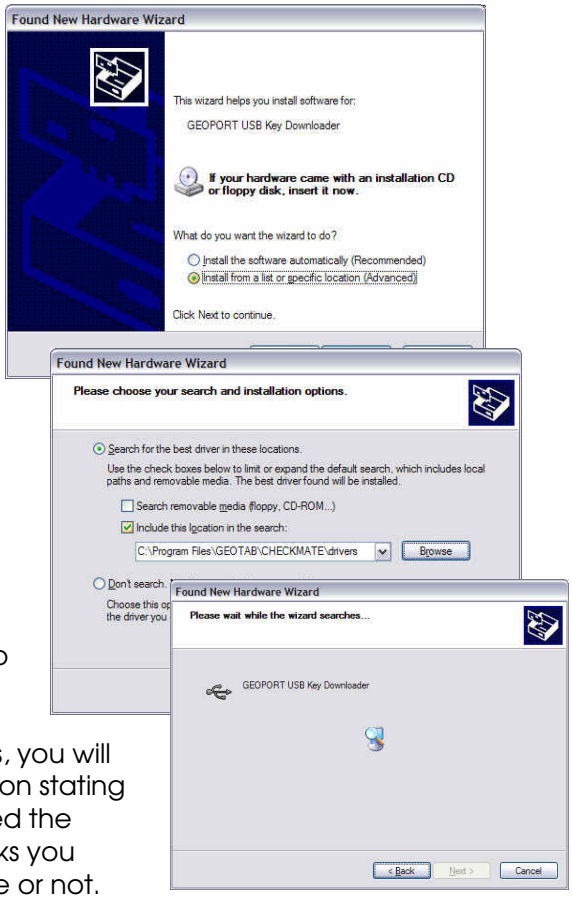
Installing Your GEOPORT Downloader

Now that you have installed CHECKMATE, you need to connect your GEOPORT USB Downloader to an available USB port on your machine. **The GEOPORT Key Reader software must be installed in order for the GEOPORT Downloader to function**.

Once you connect the Downloader, your PC should detect it and prompt you to install the device drivers for the Downloader.

(Popup will only occur on Windows XP or higher)

When prompted, ensure that you tell the wizard that you wish to install the drivers from a specific location (do not let Windows install the drivers automatically).



Click **Next**.

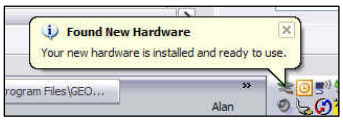
You should now be prompted to select where the drivers are situated. If Checkmate has been installed, the drivers have been copied the ***C:\Program Files\GEOTAB\Checkmate\drivers*** folder.

Select the **Search for the best driver in these locations** option and ensure that you include the correct location in the search, as per the image.

Click **Next**. Windows should automatically find the driver files and install the driver. If Windows comes back and tells you that it couldn't find the drivers, check to see if the **drivers** folder exists. You can also find the drivers on the CD.

During the installation process, you will be prompted with a notification stating that the device has not passed the Windows Logo testing and asks you whether you want to continue or not. Choose **Continue Anyway**.

Once the driver installation has been complete, you will be prompted to click **Finish**. The driver has now successfully been installed. A popup on your system tray should confirm the successful installation if you are running Windows XP or higher.



Note: Whenever you insert a new GEOPORT Downloader, you will be prompted to install the drivers. The drivers can always be found under Program Files\GEOTAB\Checkmate\drivers.

Installing GEOPORT RF

GEOPORT RF requires the Microsoft .Net framework version 1.1 to be installed. The .NET framework is included in the installation and will automatically install if the target machine does not have the .NET framework installed.

The main form gives you options to install, view help, license information and contact details. Click **CHECKMATE** to install the GEOPORT RF software.

In the Install Products section, you have the option of installing Checkmate or GEOPORT RF. There is also direct links to the Setup Guides which will assist you in preparing and setting up your environment. Click **Install GEOPORT RF** to start the GEOPORT RF installation process. Follow the easy Installation wizard to get the GEOPORT RF software installed. When it is completed, you may be prompted to reboot your machine, DO NOT IGNORE THIS.

The installation process will copy all the required files to the target PC and register the GEOPORT RF service on your computer. Once successfully installed, your desktop will have a new GEOPORT RF Console shortcut on it.

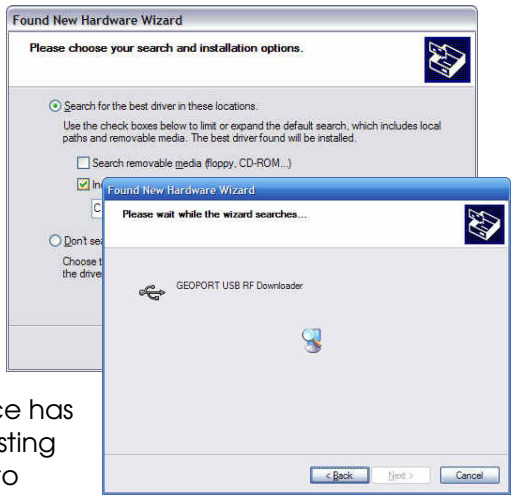
Are you running a Firewall on your GEOPORT RF Server?

GEOPORT RF uses TCP port **51234** to communicate between the service and console. If you are running a firewall application on the GEOPORT RF server, you must open up port TCP **51234** before you can start and use GEOPORT RF.

Installing GEOPORT RF Device Driver

Once you have successfully installed the GEOPORT RF Server software, you can attach the GEOPORT RF Base Station to an active, available USB port. The Operating System should detect the presence of a new device and prompt you to install the device drivers.

You should now be prompted to select where the drivers are situated. If GEOPORT RF has been installed, the drivers have been copied to the ***C:\Program Files\GEOTAB\GEOPORT RF\Drivers*** folder.



Select the **Search for the best driver in these locations** option and ensure that you include the correct location in the search, as per the image.

Click **Next**. Windows should automatically find the driver files and install the driver. If Windows comes back and tells you that it couldn't find the drivers, check to see if the **drivers** folder exists. You can also find the drivers on the CD.

During the installation process, you will be prompted with a notification stating that the device has not passed the Windows Logo testing and asks you whether you want to continue or not. Choose **Continue Anyway**.

Once the driver installation has been complete, you will be prompted to click **Finish**. The driver has now successfully been installed. A popup on your system tray should confirm the successful installation if you are running Windows XP or higher.

4. ADDING DRIVERS

This section covers the basics of adding in driver entries and assigning keys to those drivers. If you will only be using GEOPORT RF for downloads and will not be using the GO keys to track driver activity, you can skip this section.

A driver entry in the system actually represents a GEOTAB GO key. This means that for every blue key you have, you should have a corresponding entry in Checkmate, under Drivers. Each key has a unique serial number that the GO vehicle unit and Checkmate system uses to identify the key (and effectively the driver).

If you do not wish to assign keys to your drivers, you will still have entries in the Drivers section for each key. If you do not wish to use any keys at all, you do not have to add in key entries.

Each time a standard GO key is inserted into a GEOTAB GO unit, that key's serial number is recorded in the unit. This means that any driving from then on, until another key is inserted, will be assigned to that key in the system.

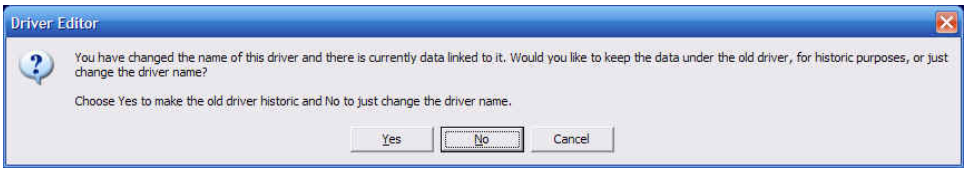
Key Types

There are two different types of driver keys: **Driver Identification and Trip Data Transfer**; and **Driver Identification Only** keys. The Driver ID and Data Transfer key is a key that is used to identify a driver and upload trip data from the GO unit, while the Driver ID Only key is just used to identify a driver and will NOT update trip data from the GO unit to the key.

A driver can have more than one GO key but a GO key can only belong to one driver.

Auto-creating Driver Entries

To have the system auto-create an entry for a driver (key), simply use the unassigned, blank key to extract trip data from a vehicle unit and import it into the system (see ***Section 6 - Importing Your Trip Data*** for more information). The system will automatically create a new entry for an unknown key, and call it **New Key (xxxxxxx)**, where **xxxxxxx** represents the unique key ID. After that, you can simply go into the Drivers list, highlight the newly created entry and change the name.



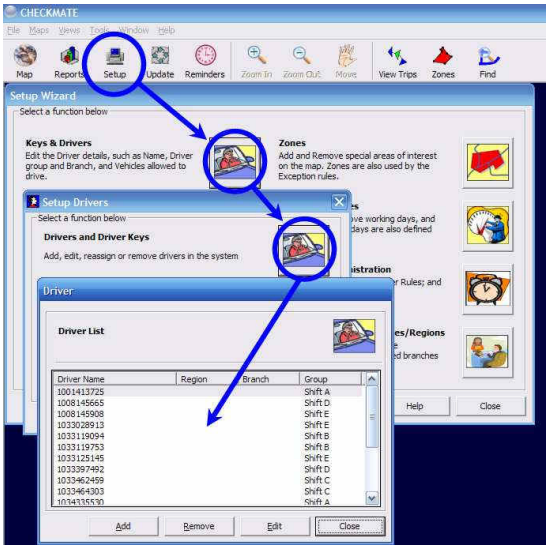
Remember to say **No** when asked whether to make a driver historic (see ***Section 19 - Removing or Reassigning Drivers and Vehicles*** for more information on making a driver historic).

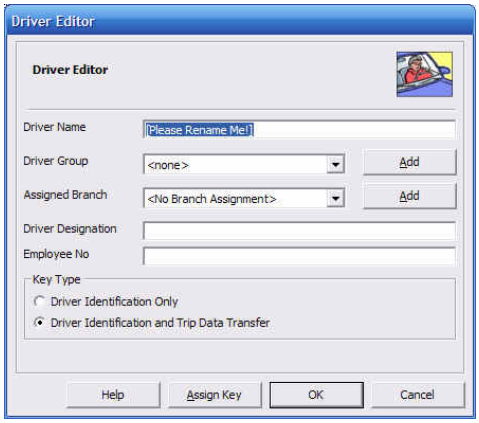
By default, a driver key is a **Driver Identification and Trip Data Transfer** key.

Driver Admin Form

Follow the steps below to add in a driver.

Choose **Setup** from the main toolbar. Then choose **Keys & Drivers** -> **Drivers and Driver Keys**. This will launch the **Driver** list. Click the **Add** button to add a new driver.





The information below describes the basic fields in the Driver Editor form. All fields highlighted in yellow are optional fields.

Field Name	Description
Driver Name	Enter the driver name here, limited to 50 characters
Driver Group	Choose a group from the list if you want to assign this driver to a group. You can add in new groups by clicking the Add button (see below)
Assigned Branch	Choose a branch from the list if you wish to assign this driver to a branch. You can add in new branches by clicking the Add button
Driver Designation	Enter the drivers designation here, if any, limited to 50 characters
Employee No.	Enter the employee number here limited to 50 characters
Driver Identification Only key type	Choose this option if you do no want the assigned key to be used to download trip data
Driver Identification and Trip Data Transfer key type	Choose this option if you want the assigned key to be used to download trip data
Assign Key	Click this once you have chosen the right Key Type, to assign a key to this driver (see below)
OK	Click OK when you have completed all the relevant fields, to save the changes to the system

Assigning a Key

To assign a key to a driver, click the **Assign Key** button in the **Driver Editor** of the driver you wish to assign a key to. This will launch the **Assign Driver Key** wizard.

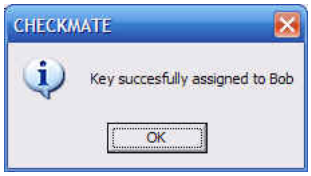
If you have connected your GEOPORT Downloader to your machine, the Downloader Status will show your device with a green check mark.

If you see a red X on your downloader, please reconnect your downloader or refer to the troubleshooting section.

When you are ready, place a BLANK key into the downloader, wait for the **Next** button tocome enabled, then click it. The wizard will then indicate who the is currently assigned to, if any, and how many records are currently on the key.

Warning: Assigning a key to a driver will erase any trip data currently on that key. Ensure that you do not have any records on the key before continuing.

When you are happy that all the settings are correct, click **Finish**. The system will give you one last chance to back out, in case you are unsure. Otherwise click **Yes** to finish. You will be notified of the successful assignment.

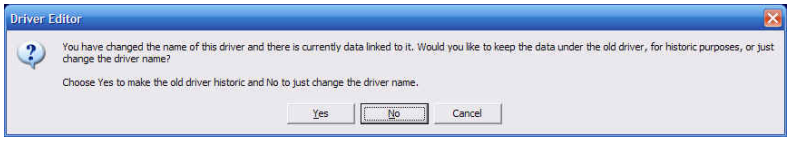


Making a Driver Entry Historic

When a driver retires or resigns, you may wish to store his trip data under his name, but still assign his old key to the replacement driver. Checkmate allows you to make a driver entry historic.

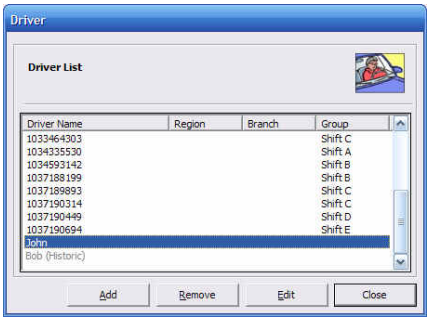
A historic driver can still be selected in your trips or reports but will not have any new trip data assigned to it, from the time you make it historic. The entry will also show up in the various lists as historic.

Warning: Once you make a driver entry historic, you cannot reactivate it back to a normal entry. You would have to create a new entry.



To make a driver entry historic, go into the Driver Editor form for the driver entry in question. Rename the Driver Name field to the new driver name and click OK. When prompted to make the existing driver historic or not, click **Yes**.

You will notice in the **Driver List** that there is an additional entry (with the new name you entered), and the existing entry has the word **(Historic)** appended to it. All the trip data for that driver is still under his name and the new entry has nothing. From that point on, all new trip data will be assigned to the new entry (**John** in this example).

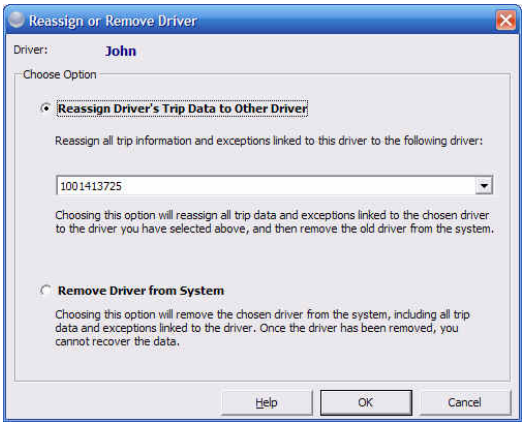


You do not need to reassign Bob's old key to John as this has been done automatically when you renamed Bob to John in the Driver Editor.

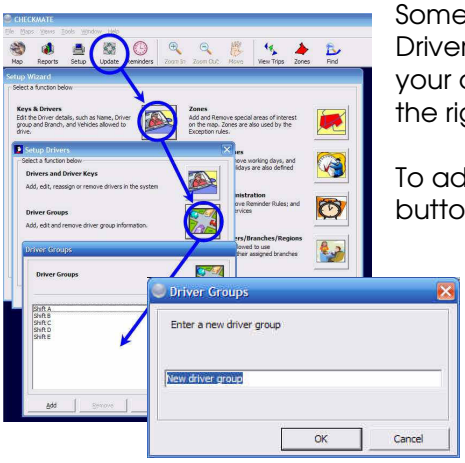
Deleting a Driver Entry

To remove a driver entry from the system, simply highlight the entry in the **Drivers** form, and then click the **Remove** button. You will then be prompted with a form that asks you whether you wish to reassign all the trip data for that driver entry to another driver, or not and just simply remove the driver entry.

Reassigning trip data to another driver that has his own trip data may result in obscure and duplicate data and is not recommended.



Driver Groups



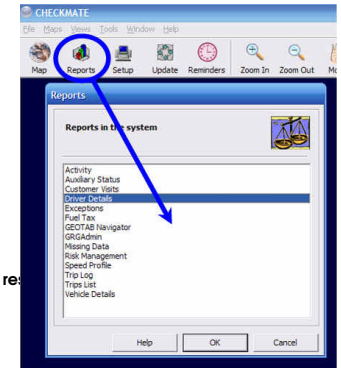
Sometimes it may make sense to group some drivers into Driver Groups. Keeping drivers in groups will help you manage your drivers more efficiently and allow you to easily choose the right drivers when analyzing trip data in reports.

To add or modify a **Driver Group**, choose the **Driver Groups** button in the wizard.

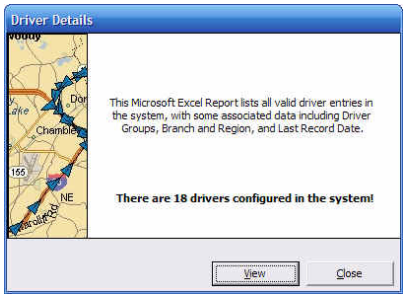
Enter a valid description (maximum 50 characters), then click **OK**. The driver group will appear in the **Driver Groups** list and will be available in the **Driver Groups** list in the **Driver Editor** form.

Driver Details Report

The **Driver Details** report is a simple report that lists all your drivers with their respective details. To view the **Driver Details** report, click



the **Reports** button on the Main toolbar, highlight the **Driver Details** report and click **OK**. The report form will indicate how many drivers are currently in the system. Click **View** to launch the report.



	A	B	C	D	E	F	G
1	DRIVER DETAILS REPORT						
2	REPORT PERIOD: 21/07/2004						
3	REPORT DATE: 21/07/2004						
4							
5	Driver Name	Driver Group	Data Key	Last Insert Date	Last Record Date	Employee No	Driver Designation
6	1001413725	Shift A	Yes	2003-06-06 2:36:02 PM	2003-06-06 2:19:10 PM		
7	1008145665	Shift D	Yes	2003-06-12 11:13:48 AM	2003-06-04 1:20:08 PM		
8	1008145908	Shift E	Yes	2003-06-06 4:32:21 PM	2003-06-04 4:11:20 PM		
9	1033028913	Shift E	Yes	2003-06-12 7:33:30 AM	2003-06-11 2:40:13 PM		
10	1033119094	Shift B	Yes	2003-06-12 10:26:58 AM	2003-06-05 7:05:32 AM		
11	1033119753	Shift B	Yes	2003-06-12 11:03:44 AM	2003-06-04 1:21:03 PM		
12	1033125145	Shift E	Yes	2003-06-12 10:23:27 AM	2003-06-04 3:35:32 PM		
13	1033397492	Shift D	Yes	2003-06-12 11:07:45 AM	2003-06-05 3:12:33 PM		
14	1033462459	Shift C	Yes	2003-06-12 11:11:05 AM	2003-06-04 4:37:41 PM		
15	1033464303	Shift C	Yes	2003-06-06 4:35:04 PM	2003-06-05 3:55:21 PM		
16	1034335530	Shift A	Yes	<Unknown>	2003-06-11 4:53:15 PM		
17	1034593142	Shift B	Yes	2003-06-12 11:17:12 AM	2003-06-04 4:10:15 PM		
18	1037188199	Shift B	Yes	2003-06-06 2:41:45 PM	2003-06-05 4:14:30 PM		
19	1037189893	Shift C	Yes	2003-06-06 2:38:30 PM	2003-06-06 10:17:24 AM		
20	1037190314	Shift C	Yes	2003-06-06 3:10:06 PM	2003-06-06 2:38:51 PM		
21	1037190449	Shift D	Yes	2003-06-06 2:37:18 PM	2003-06-06 10:53:17 AM		
22	1037190694	Shift E	Yes	2003-06-06 2:44:24 PM	2003-06-06 1:48:50 PM		
23	Bob		Yes	<Unknown>	<Unknown>		
24							
25	[End Of Report]						
26							

Figure 1 - Example of Driver Details Report

Column Name	Description
Driver Name	The name of the driver entry
Driver Group	The assigned driver group for the driver, blank if no group assigned
Data Key	Indicates whether the assigned key is a Driver Identification and Data Transfer key (YES) or just a Driver Identification key (NO)
Last Insert Date	The last known date the assigned key was inserted into a downloader for trip extraction
Last Record Date	The last recorded log point date in the database assigned to that driver key
Employee No.	The employee number of the driver entry, if assigned
Driver Designation	The designation of the driver entry, if assigned

5. ADDING VEHICLES

This section covers the basics of adding vehicle entries into the system. Each GEOTAB GO unit you use represents a corresponding vehicle entry in Checkmate.

A GO unit is a trip recorder that is installed in your vehicle. Each GO unit has a number of settings that tell it when to log a trip point; what to do at specific speeds; what to do when a key is inserted; etc. Unless you have a special requirement, you should not have to change any of these settings.

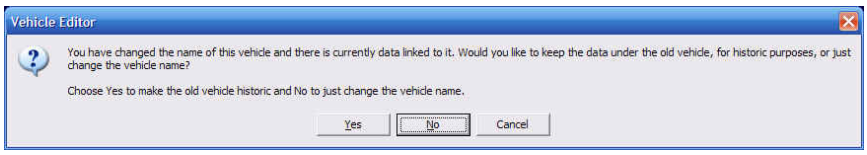
There are two ways to add your vehicles into Checkmate: Auto-creating through trip data import; or manually add in a vehicle through the Vehicle Admin form.

Note: A vehicle unit **MUST EXIST** in Checkmate before ***GEOPORT RF*** can extract trip data from it.

Auto-creating Vehicle Entries

To have the system auto-create an entry for a vehicle (GO unit), simply use a Trip Data Transfer key to extract valid trip data from the vehicle unit, and import it into Checkmate (see ***Section 6- Importing Your Trip Data***). The system will automatically create a new entry for the unknown vehicle, and call it **New Vehicle (xxxxxxx)**, where **xxxxxxx** represents the unique hardware ID (not the serial number) of the GO unit. After that, you can simply go into the Vehicles list, highlight the newly created entry and change the name (see the **Vehicle Editor** form below).

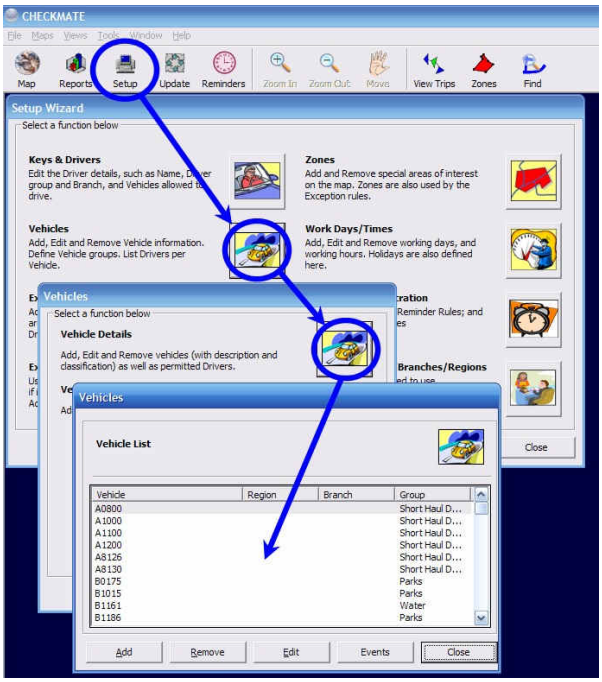
Remember to say **No** when asked whether to make a vehicle historic (see **Section 19- Removing or Reassigning Drivers and Vehicles** for more information on making a vehicle historic).

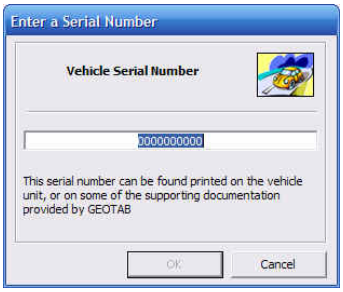


Vehicle Admin Form

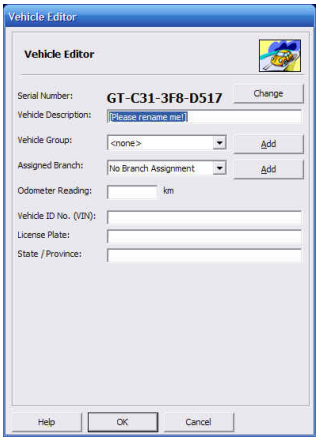
Follow the steps below to add in a vehicle.

Choose **Setup** from the main toolbar. Then choose **Vehicles** -> **Vehicle Details**. This will launch the **Vehicle List**. Click the **Add** button to add a new vehicle.





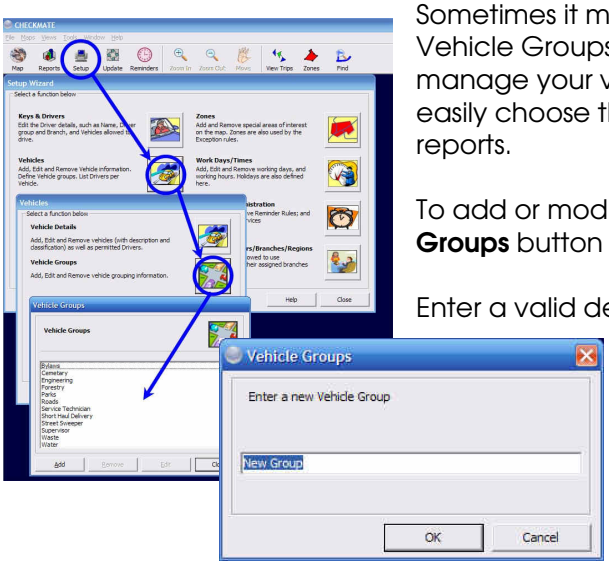
You will then be prompted to add in the Vehicle Serial Number. This number (in the format GT-XXX-XXX-XXXX where X is alpha numeric), can be found on the GEOTAB GO unit case or on the outside of the kit box. Type this number into the form as it stands on the box. If you have entered the number in correctly, the **OK** button will be enabled. Click **OK**.



The information below describes the basic fields in the Driver Editor form. All fields highlighted in yellow are optional fields.

Field Name	Description
Vehicle Description	Enter the vehicle description here, limited to 50 characters
Vehicle Group	Choose a group from the list if you want to assign this vehicle to a group. You can add in new groups by clicking the Add button (see below)
Assigned Branch	Choose a branch from the list if you wish to assign this vehicle to a branch. You can add in new branches by clicking the Add button
Odometer Reading	Enter the current Odometer reading of the vehicle. You can go in and change this at any time. There are a number of reports and functions in Checkmate that use the Odometer so it is a good idea that you update this regularly. The system will automatically increment the odometer as trip information is imported
Vehicle ID No. (VIN)	Enter the vehicle identification number (VIN), if required
License Plate	Enter in the vehicle license plate, if required
State / Province	Enter in the vehicle license plate state / province, if required
OK	Click OK when you have completed all the relevant fields, to save the changes to the system

Vehicle Groups



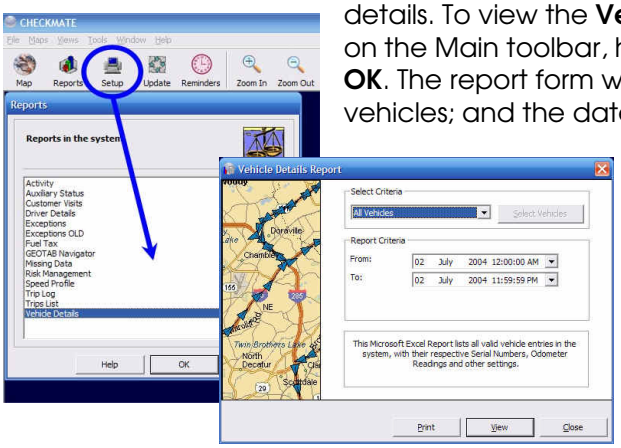
Sometimes it may make sense to group some vehicles into Vehicle Groups. Keeping vehicles in groups will help you manage your vehicles more efficiently and allow you to easily choose the right vehicles when analyzing trip data in reports.

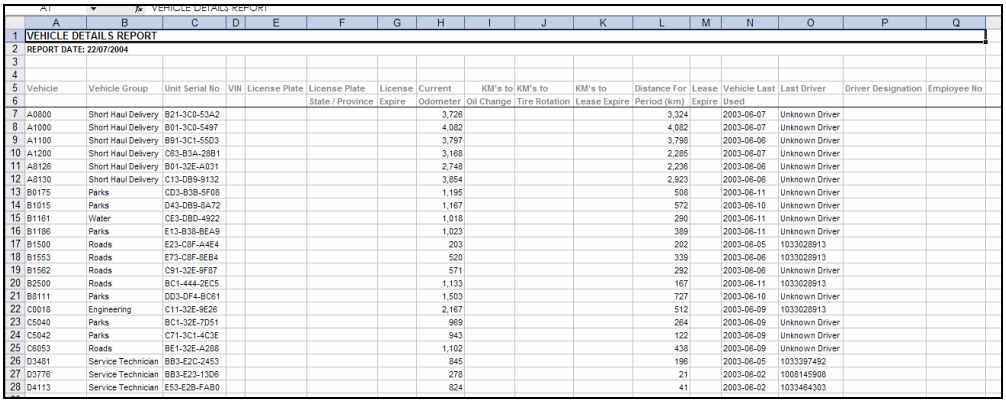
To add or modify a **Vehicle Group**, choose the **Vehicle Groups** button in the wizard.

Enter a valid description (maximum 50 characters), then click **OK**. The vehicle group will appear in the **Vehicle Groups** list and will be available in the **Vehicle Groups** list in the **Vehicle Editor** form.

Vehicle Details Report

The **Vehicle Details** report is a simple report that lists all your vehicles with their respective details. To view the **Vehicle Details** report, click the **Reports** button on the Main toolbar, highlight the **Vehicle Details** report and click **OK**. The report form will allow you to choose all vehicles or specific vehicles; and the date range for the report (used to calculate distance traveled for period).





VEHICLE DETAILS REPORT

REPORT DATE: 22/07/2004

Vehicle	Vehicle Group	Unit Serial No	VIN	License Plate	License Plate State / Province	License Expire	Current Odometer	KM's to Oil Change	KM's to Tire Rotation	KM's to Lease Expire	Distance For Period (km)	Lease Expire	Vehicle Last Used	Last Driver	Driver Designation	Employee No
A0800	Short Haul Delivery	B21-3C0-53A2					3,726				3,324		2003-06-07	Unknown Driver		
A1000	Short Haul Delivery	B01-3C0-5497					4,082				4,082		2003-06-07	Unknown Driver		
A1100	Short Haul Delivery	B91-3C1-55D3					3,797				3,798		2003-06-06	Unknown Driver		
A1200	Short Haul Delivery	C83-B3A-28B1					3,168				2,285		2003-06-07	Unknown Driver		
A8126	Short Haul Delivery	B01-32E-A031					2,748				2,236		2003-06-06	Unknown Driver		
A8130	Short Haul Delivery	C13-DB9-9132					3,854				2,923		2003-06-06	Unknown Driver		
B0175	Parks	CD3-B3B-5F08					1,195				508		2003-06-11	Unknown Driver		
B1015	Parks	D43-DB9-8A72					1,167				572		2003-06-10	Unknown Driver		
B1161	Water	CE3-DBD-4922					1,018				290		2003-06-11	Unknown Driver		
B1186	Parks	E13-B38-BEA9					1,023				389		2003-06-11	Unknown Driver		
B1500	Roads	E23-C8F-A4E4					203				202		2003-06-05	1033028913		
B1553	Roads	E73-C8F-8EB4					520				339		2003-06-06	1033028913		
B1562	Roads	C91-32E-9F87					571				292		2003-06-06	Unknown Driver		
B2500	Roads	BC1-444-2EC5					1,133				167		2003-06-11	1033028913		
B8111	Parks	DD3-DF4-BC81					1,503				727		2003-06-10	Unknown Driver		
C0018	Engineering	C11-32E-9E26					2,167				512		2003-06-09	1033028913		
C5040	Parks	BC1-32E-7D51					969				264		2003-06-09	Unknown Driver		
C5042	Parks	C71-3C1-4C3E					943				122		2003-06-09	Unknown Driver		
C6053	Roads	BE1-32E-A288					1,102				438		2003-06-09	Unknown Driver		
D3481	Service Technician	BB3-E2C-2453					845				196		2003-06-05	1033397492		
D3776	Service Technician	BB3-E23-13D8					278				21		2003-06-02	1008145908		
D4113	Service Technician	E53-E2B-FAB0					824				41		2003-06-02	1033464303		

Figure 2 - Example of a Vehicle Details Report

Column Name	Description
Vehicle	The name of the vehicle entry
Vehicle Group	The assigned vehicle group for the vehicle, blank if no group assigned
Unit Serial No	The Serial Number of the unit
VIN	The Vehicle Identification Number, if assigned
License Plate	The License Plate, if assigned
License State / Province	The License Plate State or Province, if assigned
License Expire	The License Expire Date, if assigned (see Events)
Current Odometer	The current odometer reading of the vehicle
Distance to Oil Change	The mileage remaining to the next oil change, if assigned (see Events)
Distance to Tire Rotation	The mileage remaining to the next tire rotation, if assigned (see Events)
Distance to Lease Expiry	The mileage remaining for the current lease, if assigned (see Events)
Distance for Period	The mileage the vehicle traveled for the period chosen
Lease Expire	The lease expire date of the vehicle, if assigned (see Events)
Vehicle Last Used	The date the vehicle was last used
Last Driver	The last known driver to use the vehicle
Driver Designation	The last known driver's designation, if assigned
Employee No.	The last known driver's employee number, if assigned

6. IMPORTING YOUR TRIP DATA

Now that you have set up your drivers and vehicles, you would want to start importing the trip data from the GO unit to Checkmate. GEOTAB provides two methods of doing this: via a data key; or via GEOPORT RF. Regardless of which method is used, there are several steps that need to take place to successfully import trip date into Checkmate. These steps are outlined as follows:

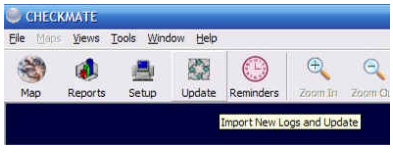
Step	Comments
Trip recording in GO unit	*During a trip, the GO unit will record data*
Transfer of trip data from GO to PC	*When the ignition is off, you can pull off all the active trip data (to a key or via RF) which will get transferred to the GEOPORT PC, into an encrypted text file*
Importing of trip data from PC to Checkmate	*The Checkmate Processor (EP) will pick up those text files, read the data out of them, and then import that raw data into Checkmate*
Analyzing and processing of data in Checkmate	*The EP will then work through each trip log and process it, based on your configured rules and customers (see later one for more information on rules and customers)*

Now that you understand the basic steps that occur, let's look at the specifics of importing your trip data.

Getting the Trip Data using a Key

This section explains how to get your data from the GO unit in the vehicle to the software using the **GO Key**, so that you can view the trips on a map and analyze the trip data in reports.

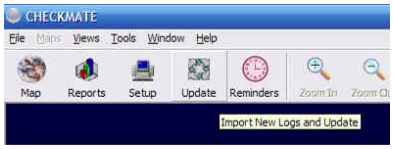
Follow the steps below, to import your trip data using a key:

Step	Comments	
Upload data from vehicle to key	*In the vehicle, when the ignition is off (and the LED is flashing), insert the driver data key into the key housing. Hold it in until you head a double-beep, then remove the key.*	
Download data from key to PC	*At the Checkmate machine, ensure that the GEOPORT Key Reader is running and insert the driver key. Hold it in until you hear 6 double-beeps, then remove the key.*	
Import and process data into Checkmate	*Run Checkmate, click the Update button on the main toolbar. In the wizard, leave all settings as default and click **NEXT** -> **FINISH**. This will run the processor that imports and processes the trip data. Wait for the status window to disappear, then your data is in the system. You can now view a report or the trips on a map.*	

Getting the Trip Data using GEOPORT RF

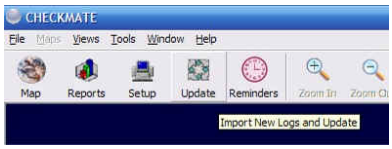
This section explains how to get your data from the GO unit in the vehicle to the software using **GEOPORT RF**, so that you can view the trips on a map and analyze the trip data in reports.

Follow the steps below, to import your trip data using GEOPORT RF:

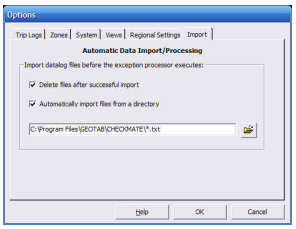
Step	Comments	
Initiate a wireless download from your vehicle	*When you return from your trip and turn the ignition off, the RF-enabled GO unit will automatically look for an available GEOPORT RF station. If one is found and that GO unit entry is in the Checkmate database, the GO unit will send all the relevant trip data to the GEOPORT RF station. If it is out of range or the station is currently busy, it will keep retrying until successful (for 30 minutes). GEOPORT RF will import the trip data into an encrypted dump file into the configured folder.*	
Import and process data into Checkmate	*Run Checkmate, click the Update button on the main toolbar. In the wizard, leave all settings as default and click **NEXT** -> **FINISH**. This will run the processor which imports and processes the trip data. Wait for the status window to disappear, then your data is in the system. You can now view a report or the trips on a map.*	

The Update Function (Import Wizard)

The Update function in Checkmate is the process that looks for new download files, imports them and applies your exceptions rules. When you click the Update button the main toolbar in Checkmate, you will have an Import Wizard form appear.



This wizard prompts you with specific options on what data you want to process (new data only, or reprocess existing data). To import new data, simply leave the form with all the defaults, click **Next** when prompted and then **Finish** at the end. The process will then look in a specified folder for any download file and import them. Once each file has been imported successfully, it will be deleted out of the folder.



To change the path where the Update function looks for the download files, go to **Tools** -> **Options** and click in the **Import** tab. Here you can specify which folder your download files are in. By default this is Program Files\GEOTAB\Checkmate.

It is not recommended to deselect the 'Delete files after successful import' option, because each time the Update function runs, it will have to re-import those existing files again, which takes up time and resources.

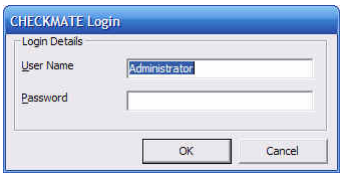
Enabling Auto Update

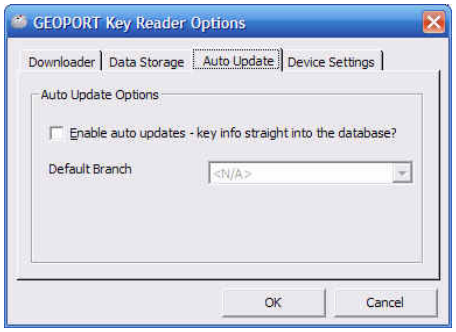
Instead of having to run the Update process in Checkmate each time you download from a key or return from a trip (with RF), you can configure the system to automatically run the Update process in the background, each time new trip data is received. This can be done for both methods: GEOPORT Key Reader and GEOPORT RF.

Enabling Auto Update for my Key Downloads

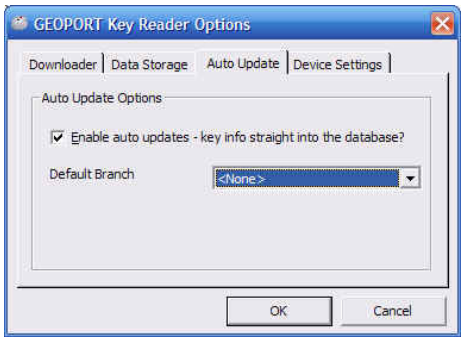
To enable auto update for your key downloads, right-mouse click on the GEOPORT Key Reader icon in your system tray and choose **Setup**.

In the Setup form, click the **Auto Update** tab, and check the box next to the `**Enable auto updates**…' field. You will then be prompted with a logon form. If you have not implemented security, the user name is **Administrator** and the password is blank (i.e. no password).





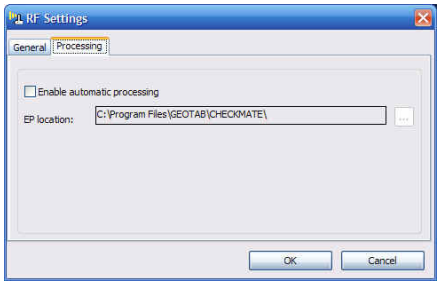
Leave the branch as **<None>** if you have not implemented branches, or choose the default branch (for new vehicles) from the list, then click OK. That's it, you are done. The next time you insert a key into the downloader and download trip data, the system will automatically kick off the Update process.



Whenever the process is running in the background, you will see a spinning arrow appear in your system tray. When the spinning arrow disappears, the system has finished the processing and you can view the trip data in the system.

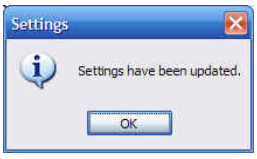
Enabling Auto Update for my RF Downloads

To enable the auto update option on your GEOPORT RF server, double-click the GEOPORT Console shortcut on your desktop, click the **Settings** button, then choose the **Processing** tab.



Check the **Enable automatic processing** option and ensure that the EP (processor) path is set correctly. This path must be the path to where Checkmate has been installed (default is Program Files\GEOTAB\CHECKMATE).

When you have checked the settings, click **OK**. You will be prompted that the settings have been updated. Click **OK**.



That's it, you are done. Any new downloads on the GEOPORT RF server will be automatically imported and processed into Checkmate.

7. UNDERSTANDING YOUR DRIVER ACTIVITY

Driver Accountability

Knowing whether you have implemented driver accountability within the GEOTAB solution is important when knowing how to analyze your driver activity.

Assuming you do not issue each driver with his own driver ID key and that you use GEOPORT RF to upload all the trip data from the vehicles each night, viewing any information by driver will not show you anything valuable. In this situation you will have one driver[1] assigned to all vehicles, which means one driver will appear to be in more than one vehicle at the same time. You would have to analyze your data by vehicle only.

Conversely, assuming you have implemented driver accountability, i.e. issued a driver ID key to all drivers and enabled immobilization in each vehicle to force your drivers to insert their keys prior to starting the vehicle, you could analyze your data by driver or by vehicle, its your choice. In this situation, you are guaranteed that each trip has the correct driver assigned to it, and you will not have a situation where one 'driver' can be in more than one vehicle at the same time, as is the case in the first scenario.

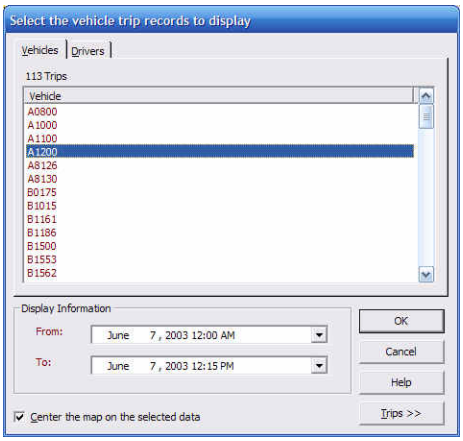
What is a Trip?

The start of a trip is defined as from when a vehicle starts moving with the ignition on. The end of a trip is defined as when the vehicle stops moving for longer than a certain period of time (usually 200 seconds) or when the ignition is turned off.

A trip has a number of properties: Vehicle, driver, trip distance and trip time.

If you start a vehicle and just keep it running without moving it, that is not classified as a trip as there is no trip distance.

Viewing a Trip



Once trip data has been imported and processed in Checkmate, you will be able to view that trip data on a map, to see exactly where each vehicle was at any given time. To view a trip, click the View Trips icon on the main toolbar. This will bring up a window that allows you to choose which vehicle (or driver) and for what period you wish to view trip data for.

The trips window will show you a list of all vehicles and drivers you currently have in your system. When you click on a vehicle or driver entry, the system will tell you how many trips that vehicle or driver has and the date range will default to the last known day that the selected vehicle or driver has data for.

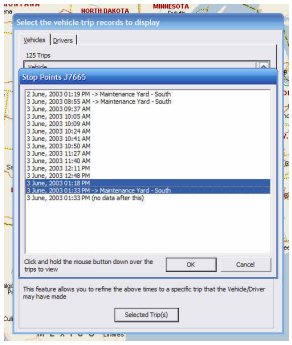
When you have selected the right vehicle or driver and the

[1] The driver in this case will not be a physical person but rather just an association of a trip to a driver entry in Checkmate.

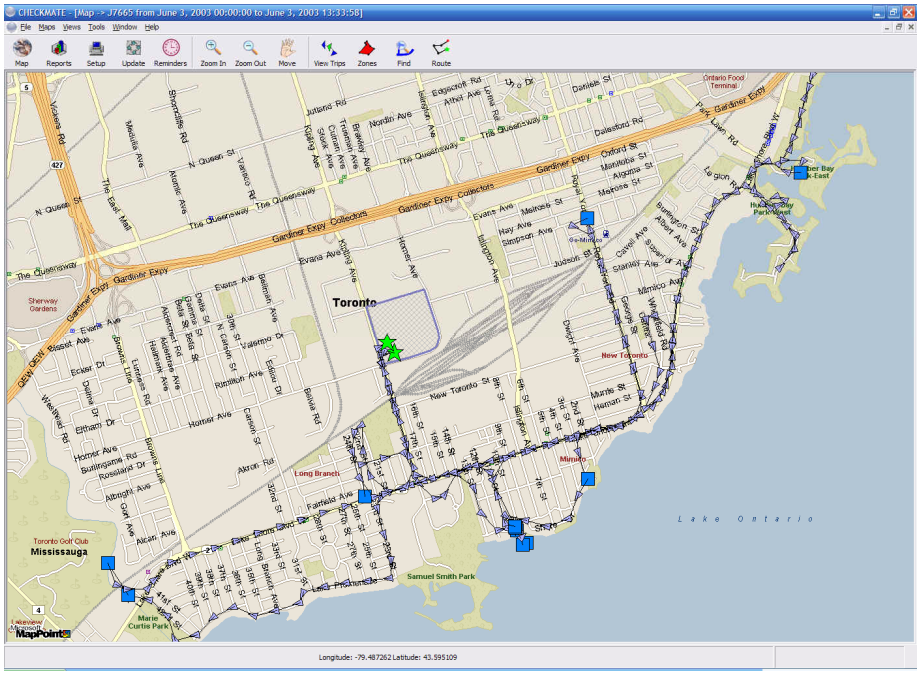
right date period, just click OK and the system will load the necessary trip data onto a map.

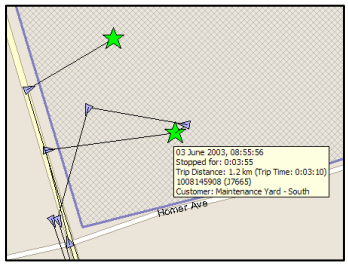
If you click on a vehicle or driver that doesn't have any trip data, the system will indicate that no data exists, and you won't be able to view any trip data.

It is also possible to select specific trips within a period, instead of seeing all trip data, by clicking the Trips button and selecting specific trips. You have to select at least 2 trips!

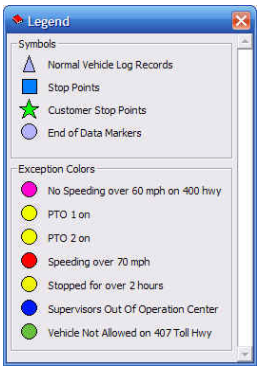


When you view a trip, the system will draw each log point onto a map, indicating the direction of the vehicle. The system will also indicate if and where any exceptions were recorded, stops and customer visits.





If you move your mouse over a specific point, more information about that log point will be displayed. Information such as current speed, current trip distance, vehicle and driver, and the exceptions broken if any is displayed as a tooltip. If your mouse is over more than one point, the information for each point will show. You can zoom in to pinpoint a particular log point.



To see what each color / shape means on a map, you can view the legend bar by clicking **Tools**, **Display Legend**. There are 4 basic shapes and any number of colors for exceptions (which you define).

Below is a simple description for each symbol that may be displayed on your trip profile:

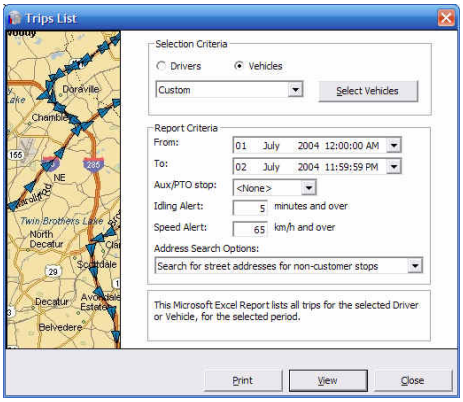
▶	Indicates a normal vehicle log record and the direction in which the vehicle is heading
■	Indicates a stop point (for example, vehicle ignition is turned off)
★	Indicates a customer stop, i.e. when the vehicle stops within a customer zone
●	Indicates the end of data for that particular vehicle

You can print the current trip profile by clicking **Print** from the **File** menu. You cal also change the default size and color of your trip log markers by clicking **Tools** -> **Options** and choosing the **Trip Logs** tab.

Activity-based Reports

There are a number of standard reports within Checkmate that you can use to analyze your driver activity. Below is a list of the trip-based reports and a brief description for each:

Trips List Report



This report is one of the most useful and powerful reports in the system. It clearly and effectively displays a chronological log of each trip your vehicles did, including Departure time, driving time, arrival time, the location (which can be either an address or the customer zone if applicable), the trip length, how long the vehicle stopped for, any idling and the current odometer reading.

The trips are broken down per day with sub totals and full totals for each vehicle.

Vehicle	Driver	Departure Time	Driving Time (d:h:m:s)	Arrival Time	Location	Trip km	Stopped Time (d:h:m:s)	Ave. Speed km/h	Max. Speed km/h	Odometer km	Idling (d:h:m:s)
NEW VEHICLE (335074583)											
Thursday											
New Vehicle (335074583)	Bob	2004-07-01 12:12:47 AM	0:00:03:32	2004-07-01 12:16:19 AM	M-54	0.5	0:00:15:00	18	30	466	0:00:00:00
New Vehicle (335074583)	Bob	2004-07-01 12:31:19 AM	0:00:08:11	2004-07-01 12:39:30 AM	M-54	1.1	0:01:24:21	20	37	468	0:00:07:47
New Vehicle (335074583)	Bob	2004-07-01 2:03:51 AM	0:00:03:39	2004-07-01 2:07:30 AM	M-54	0.4	0:00:15:00	18	28	468	0:00:00:00
New Vehicle (335074583)	Bob	2004-07-01 2:22:30 AM	0:00:03:00	2004-07-01 2:25:30 AM	M-54	0.6	0:00:05:00	18	28	469	0:00:00:00
New Vehicle (335074583)	Bob	2004-07-01 2:30:30 AM	0:00:06:56	2004-07-01 2:37:26 AM	M-54	3.3	0:00:48:22	36	53	472	0:00:00:28
New Vehicle (335074583)	Bob	2004-07-01 3:25:48 AM	0:00:42:46	2004-07-01 4:08:34 AM	M-54	19.7	0:01:10:49	31	51	492	0:00:00:02
New Vehicle (335074583)	Bob	2004-07-01 5:19:23 AM	0:00:30:08	2004-07-01 5:49:31 AM	M-54	15.1	0:00:04:10	36	67	507	0:00:00:00
New Vehicle (335074583)	Bob	2004-07-01 5:53:41 AM	0:00:38:18	2004-07-01 6:31:59 AM	M-40	24.3	0:00:08:18	41	60	531	0:00:00:00
New Vehicle (335074583)	Bob	2004-07-01 6:40:17 AM	0:00:04:31	2004-07-01 6:44:48 AM	M-40	2.1	0:00:04:21	27	41	533	0:00:00:03
New Vehicle (335074583)	Bob	2004-07-01 6:49:09 AM	0:00:20:11	2004-07-01 7:09:20 AM	M-57	7.6	0:03:27:47	29	48	541	0:00:00:00
New Vehicle (335074583)	Bob	2004-07-01 10:37:07 AM	0:00:08:11	2004-07-01 10:45:18 AM	M-57	3.5		39	55	544	
TOTAL FOR THURSDAY			**0:02:49:23**			**78.2**	**0:07:43:08**				**0:00:08:20**
TOTAL FOR NEW VEHICLE (335074583)			**0:02:49:23**			**78.2**	**0:07:43:08**				**0:00:08:20**
[End Of Report]											

Yellow back color indicates after-hour use

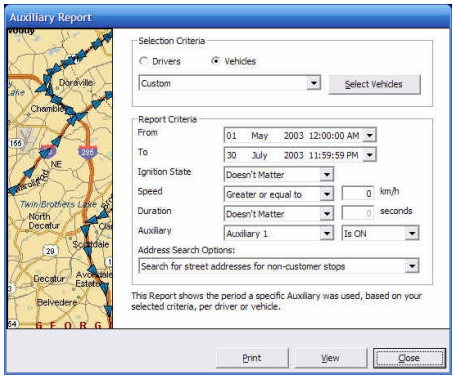
Red back color indicates excessive speeding and / or idling. You can set the parameters.

Activity Report

This report breaks down the vehicle usage to allow you to effectively see how well your assets are being used. The report will give you totals for when the vehicle was used, idling and when they are at customers, as a percentage of the total period you choose.

VEHICLE	WORKING HOURS				AFTER HOURS				Speeding	Idling Time	Vehicle Use	Time at Customers	Non-Cust. Stop Time	Total Stop Time
	Driving Time	Idling Time	Customer Time	Distance	Driving Time	Idling Time	Customer Time	Distance	Over 120	/ Vehicle Use	/ Period	/ Period	/ Period	/ Period
	(d:h:m:s)	(d:h:m:s)	(d:h:m:s)	(km)	(d:h:m:s)	(d:h:m:s)	(d:h:m:s)	(km)	(%)	(%)	(%)	(%)	(%)	(%)
B8111	0:08:40:30	0:00:00:03	0:12:45:08	265	0:00:00:00	0:00:00:00	0:10:00:00	0	0.00	0.01	13.91	47.40	52.60	86.09
C0018	0:00:56:12	0:00:00:00	0:00:00:00	50	0:00:00:00	0:00:00:00	0:00:00:00	0	0.00	0.00	1.95	0.00	100.00	98.05
AVERAGES	0:03:48:21	0:00:00:02	0:06:22:34	158	0:00:00:00	0:00:00:00	0:05:00:00	0	0.00	0.01	7.93	23.70	76.30	92.07
[End Of Report]														

Auxiliary Status

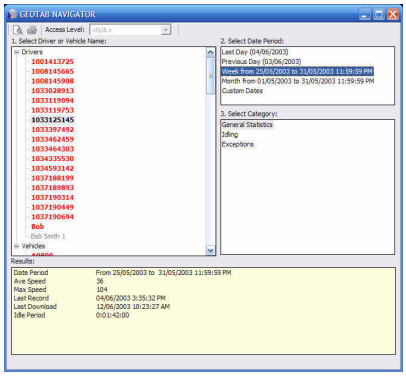


The Auxiliary Status report is a powerful report allowing you to choose exactly what parameters you want, when a specific auxiliary / PTO was engaged or disengaged.

Choosing the ignition state, speed, duration and state of specific auxiliary allows you to see exactly when and where the chosen auxiliary was activated. If the criteria took place in a customer or office zone, you will see the zone name. You can also do an address lookup for unknown locations.

Vehicle	Driver	From	To	Time Period	Location
				(d:h:m:s)	
K2755	1037189893	2003-05-30 12:30:37 PM	2003-05-30 12:35:22 PM	0:00:04:45	98 Civic Centre Ct, Toronto ON
K2755	1037189893	2003-05-30 12:43:31 PM	2003-05-30 12:47:49 PM	0:00:04:18	532 Lake Shore Blvd E, Toronto ON
K2755	1037189893	2003-06-06 9:54:53 AM	2003-06-06 10:00:25 AM	0:00:05:32	227 Church St, Toronto ON
Total for K2755				0:00:14:35	
[End Of Report]					

GEOTAB Navigator



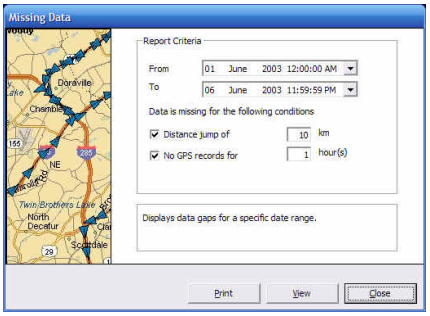
The GEOTAB Navigator report is a nice report that quickly and efficiently displays important data for a specific driver or vehicle over a chosen period, including general statistics such as average speed and maximum speed, idling and exceptions.

The report allows you to choose specific period relating to the chosen vehicle or driver, or choose your own custom dates.

The results are displayed in an easy-to-read grid which can be printed if required.

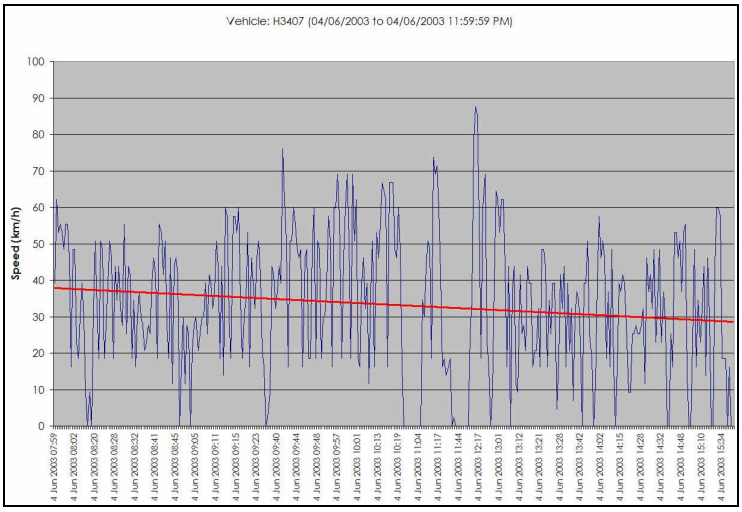
Missing Data

The Missing Data report is used to determine which vehicles have data missing, due to potential tampering, lost keys and failed units. The report allows you to specify which conditions are considered to be missing data (distance jump or period of time).



Speed Profile

The Speed Profile report allows you to choose a particular vehicle or driver and analyze the speed profile over a chosen period, in a simple line chart format. A trend-line is also calculated and added to the report, to give you a clear, graphical view of the speeds the chosen vehicle or driver has done.



8. SETTING UP RULES AND RESTRICTIONS

One of the key features of Checkmate is the ability to create and manage exception rules and restrictions for your fleet, to allow you to manage them efficiently. Most fleets only want to know if something is not right or if someone has broken company rules.

Exception Rules are rules that get processed against each log point. When there is an exception, the system will record it for you to view.

Exception Rules can apply to specific zones (including area, customer and office / home zones), specific drivers and / or vehicles (or groups of drivers and / or vehicles), and only during office hours, after hours or both. Any exceptions generated will be shown in two main places within Checkmate: On a trip profile; and in the Exceptions report.

You can monitor speed, stopped times, auxiliary usage, or vehicle positions in relation to zones.

Creating Zones

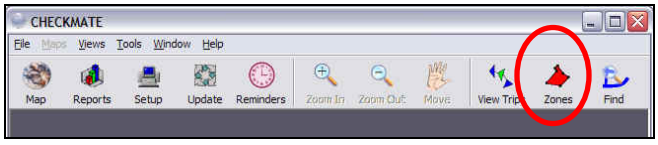
Zone creation is fundamental to the generation of meaningful exceptions and reports.

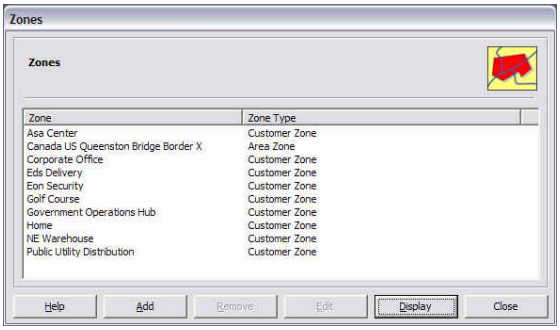
There are four default types of zones: **territory** (area) zones; **customer** zones**; office/depot** zones and **home** zones.

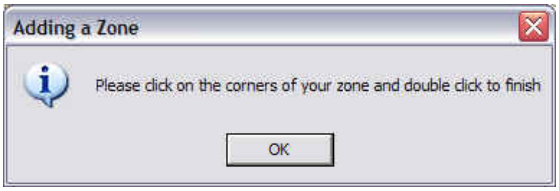
Customer zones are useful as they enable specific reporting of time spent at a customer location. The name you give a Customer Zone is the one that will show up in future reports so you'll be able to quickly identify the stops made at your known customers.

Office/Depot and **Home** zones are used to identify your own internal office areas or employee homes, and can be included or excluded in reports to give you meaningful information.

Territory zones are areas where your vehicles operate. Territory Zones are important for the creation of vehicle operating exceptions. For example, you can create rules surrounding zones; vehicle not allowed to drive inside or outside of a territory zone, vehicle not allowed to exceed a speed limit inside a territory, PTO activation inside a territory and more.

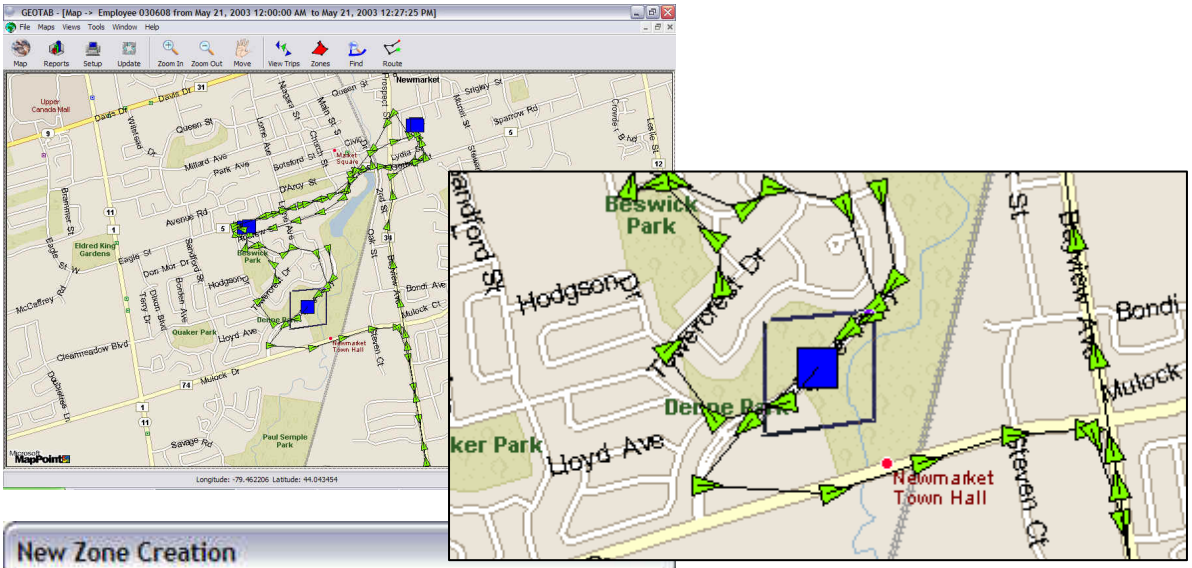


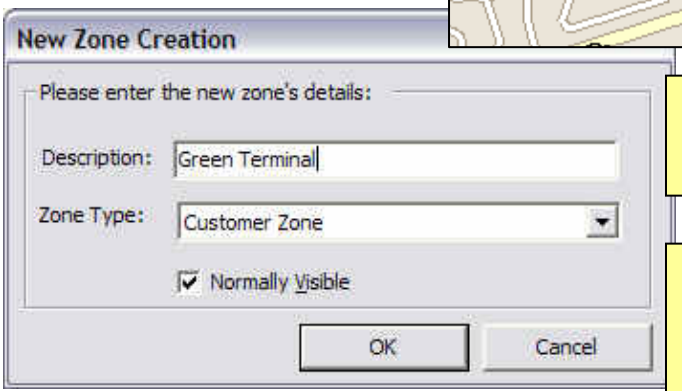




Using your cursor, click on the corners of the area you wish to designate as being a zone. In this example, a zone is being created after viewing a trip on a map. The stop point made by the driver is shown as a blue square. The fleet manager simply reviewed the blue squares once and creates zones around all blue squares known to be customer addresses. Importing customer addresses (GEO-coding) is an advanced feature of GEOTAB. See ***Section 9 - Your Customers*** for instructions on how to import a customer list for auto-customer zone creation.

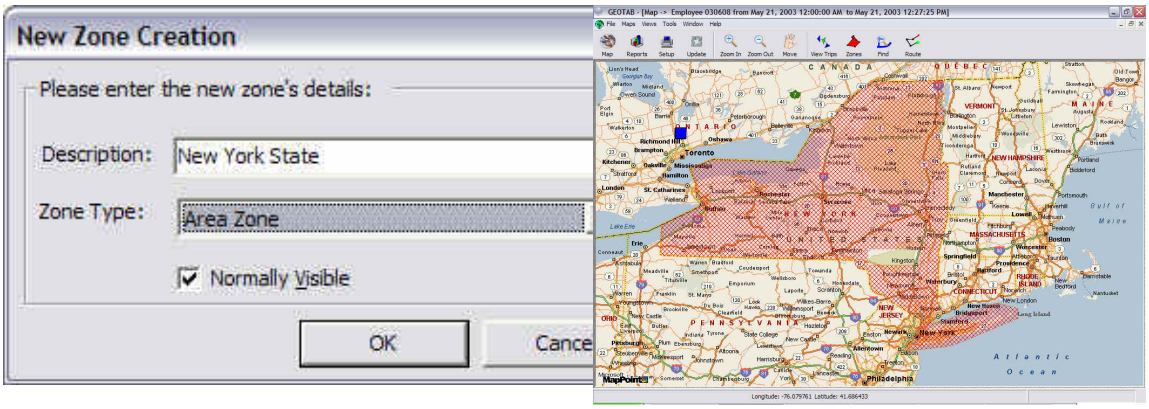
HINT: CHECKMATE allows Microsoft MapPoint users to import Customer Lists to automatically create Customer Zones. See the section in the Users Manual on this Import Tool.





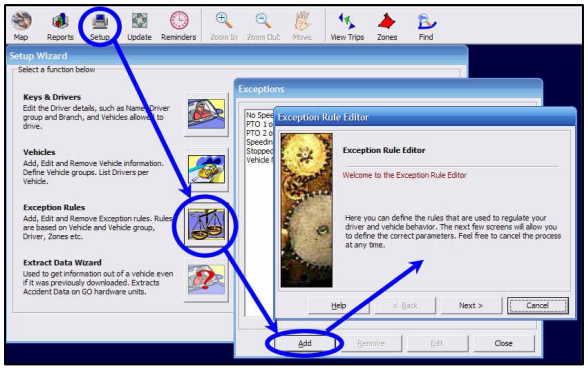
The new zone is given a description by the Fleet Manager. In this case, it is called a Customer Zone.

The new zone below is an Area Zone. In this example, the fleet manager wishes to monitor driving activity in and outside of New York State.



When you create a zone that is an Area, you are prompted to remind you that you should create an exception rule to apply to your area zone.

Exception Rules



Now that you have created your zones, you can create exception rules based on those rules. To create a new Exception Rule, click the **Setup** -> **Exception Rules** -> **Add**.

Follow the onscreen instructions to create your Exception Rule. You can have as many rules as you require in the system.

Rule Types

There are three different categories of rules that you have the option of creating:

Vehicle Position in relation to a Zone

Use this type of rule when you want to know when a vehicle is inside, outside, stopped inside or stopped outside an existing zone.

Vehicle Conditions in relation to a Zone

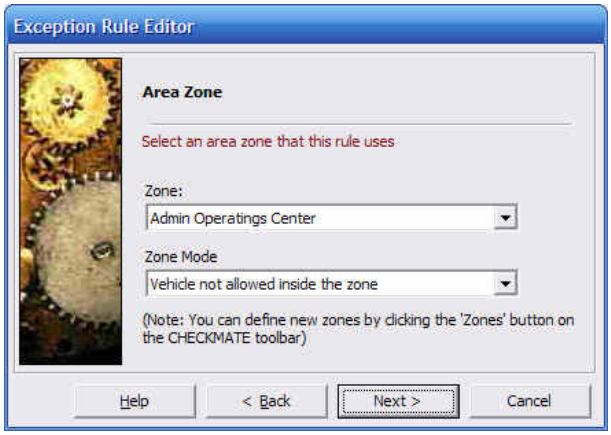
Use this type of rule when you want to know whether a vehicle was speeding, stopped for longer than a specified period, or whether auxiliaries were activated, within an existing zone.

Vehicle Conditions (regardless of position)

Use this type of rule when you want to know whether a vehicle was speeding, stopped for longer than a specified period, or whether auxiliaries were activated, at any time, regardless of whether the vehicle was within or outside of a specific zone.

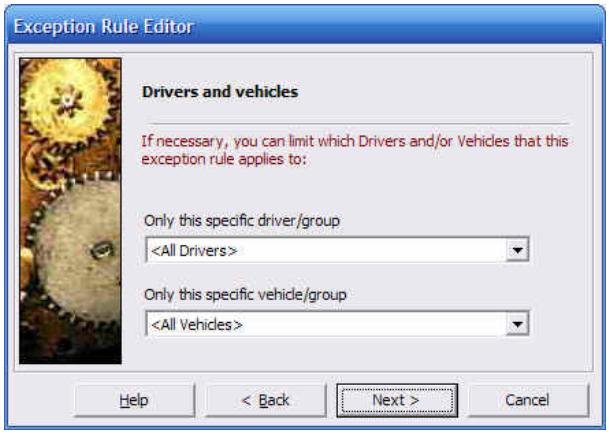
Rule Properties & Conditions

There are several conditions and properties for a particular rule:

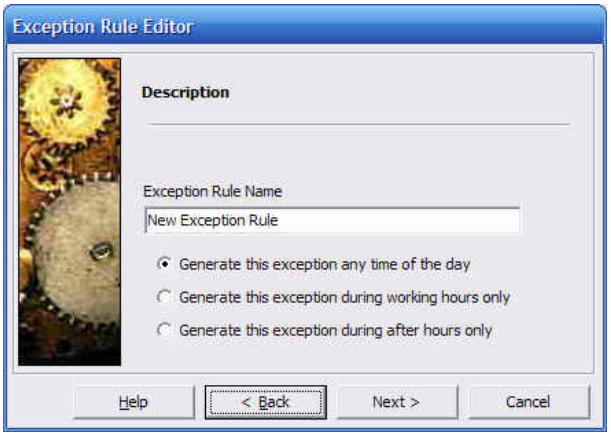


For a Position-type rule, you can choose which zone the rule applies to and what zone mode the rule must follow, i.e. Vehicle not allowed inside, not allowed outside, not allowed to stop inside, or not allowed to stop outside the zone.

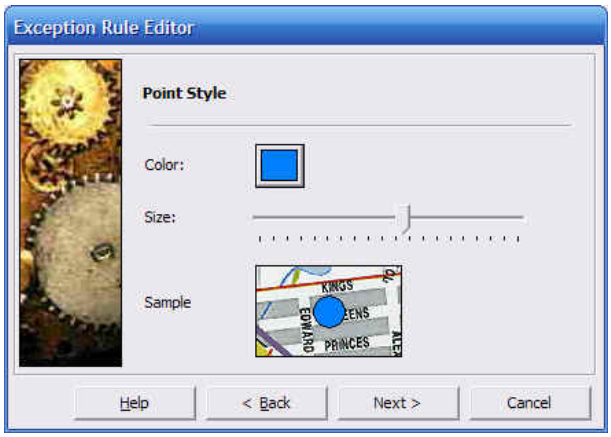
For a Condition-type rule, you can choose a specific condition for the rule, i.e. speeding greater than a specified amount, stopped for longer than a specified period, or when a particular auxiliary is engaged.



You can choose which drivers, vehicle, driver groups or vehicle groups the rule must apply to. By default the rule applies to all vehicles and all drivers.

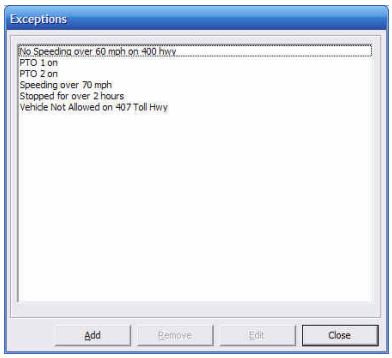


Give the rule a unique name and specify whether you want to rule to apply for any time of the day, only during office hours or only during after hours.



You can specify the color (by clicking the colored square) and the size of the exception when displayed on a map.

When you have specified the necessary conditions, the wizard will summarize your rule, allowing you to go back and change something, or finish by clicking **Save**.

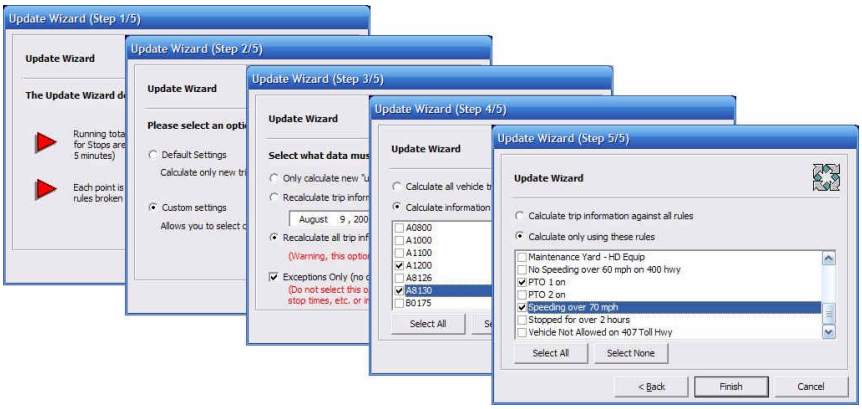


Once your rule has been saved, it will appear in the Exceptions window. You can go back at any time and change the conditions and / or properties of the rule.

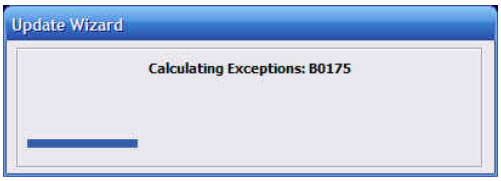
When you add a new rule or change the conditions of an existing rule, the system will not automatically apply the rule to any existing data. Generally when you create a new rule, you don't want the rule to apply to your existing data, particularly if you have a large data set. This allows you to create rules without impacting the historical data in any way. Sometimes, however, it may be necessary to apply a new rule to existing data. Checkmate allows you to do this.

Applying Rules to your Data

When you create a new rule or change an existing one's conditions, that rule will only be applied to new trip data imported from the time you create or modify the rule. It is, however possible to create a rule and then go and apply it to all or some existing data. To do this, run the **Update** function in Checkmate (after you have created or modified a rule), choose Custom when prompted and then choose which vehicles, rules, and the period you wish to reprocess from.



Once you click Finish, the system will reprocess all your data based on the options you selected. A status bar will be visible during the processing and will disappear once the system has completed the tasks.

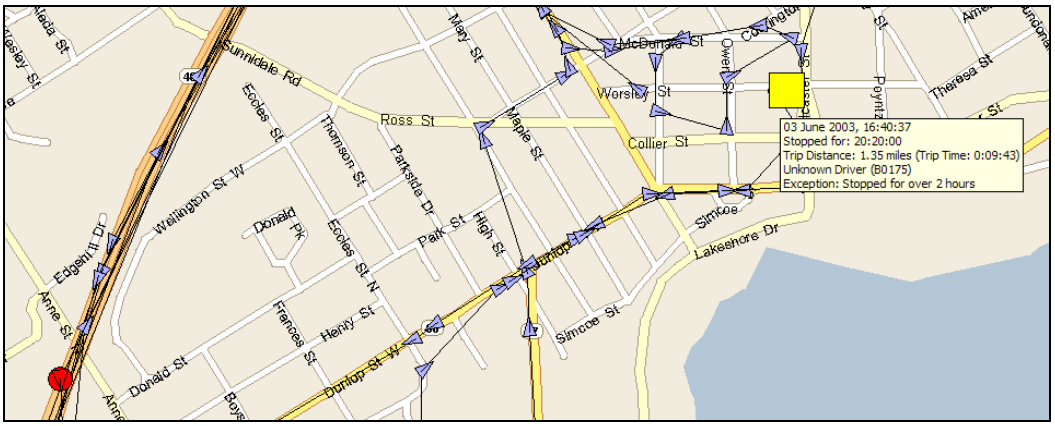


Warning: Reprocessing all your data for all your vehicles and rules may take a while to complete. You will not be able to continue using Checkmate during the processing.

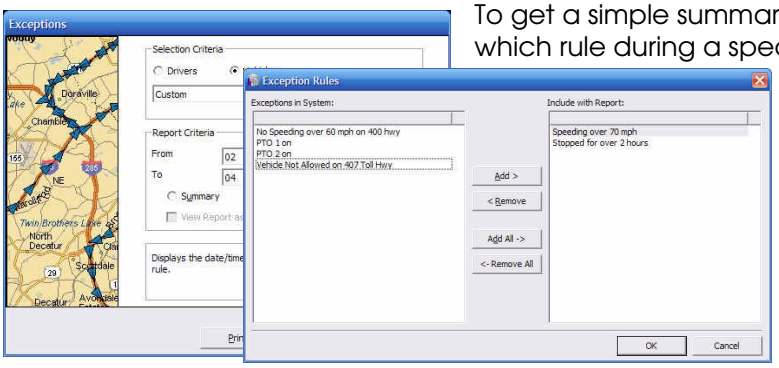
Viewing your Exceptions on a Map

When a vehicle breaks an exception rule, the system will create an exception and will display the exception on a trip profile at the exact location of where the rule was broken. The color of the exception is specified by yourself when creating the rule (see above).

Moving your mouse over the exception will show you which exception has been broken. In the example below, the vehicle B0175 broke the **Stopped for over 2 hours** rule where the yellow square is. You may also notice a red circle, which in this case indicates a speeding violation.



Exceptions Report



To get a simple summary of which vehicles (or drivers) broke which rule during a specific period, you can use the Exceptions Report.

This report allows you to choose specific vehicles or drivers, a period to analyze, the level of detail (or just as a chart), and which specific rules you wish to analyze for.

The report will provide a list of all rules per vehicle that were broken and the

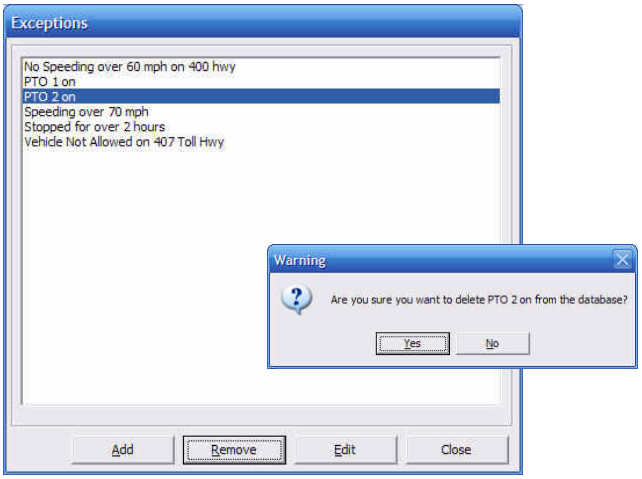
exact date and time, the duration (if for more than one log point) and the speed statistics and distance of the incident, where applicable.

Vehicle		# of Incidents	Period		
B0175					
Speeding over 70 mph		**2**	**0:00:00:54**		
Driver Name	From	To	Period	Ave. Speed (mph)	Distance (miles)
Unknown Driver	2003-06-03 2:16:57 PM				
Unknown Driver	2003-06-03 2:48:34 PM	2003-06-03 2:49:28 PM	0:00:00:54	70	1.04
Stopped for over 2 hours		**4**	**3:23:41:23**		
Driver Name	From	To	Period	Ave. Speed (mph)	Distance (miles)
Unknown Driver	2003-06-02 5:29:22 PM	2003-06-03 9:19:21 AM	0:15:49:59		
Unknown Driver	2003-06-03 4:40:37 PM	2003-06-04 1:00:37 PM	0:20:20:00		
Unknown Driver	2003-06-04 4:07:04 PM	2003-06-05 10:47:34 AM	0:18:40:30		
Unknown Driver	2003-06-05 5:02:40 PM	2003-06-07 9:53:34 AM	1:16:50:54		
[End Of Report]					

Deleting a Rule

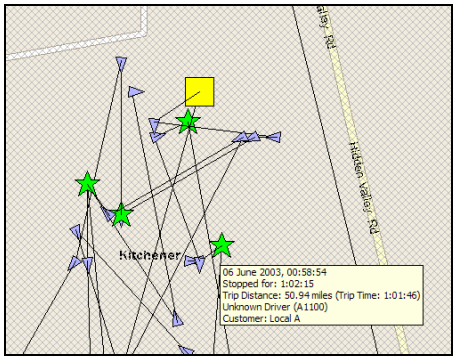
It is important to note that an exception cannot exist without its rule, so if you delete an Exception Rule, any exception that may have been generated by that rule will also be deleted.

To delete a rule, choose **Remove** in the **Exceptions** window. You will be prompted to confirm your action. A deletion cannot be undone!



9. YOUR CUSTOMERS

In Checkmate, your customers are Customer Zones (see Setting Up Rules and Restrictions), i.e. geo-fences around specific locations. When a vehicle stops within one of those locations, the system will automatically generate a 'customer stop' (the same applies to office and home zones too), which is used within the customer and activity reports. A customer stop on a map is displayed as a star.



There are 2 ways of creating your customers in your system: manually create a zone around your customer locations; create a list of customers with their addresses (or co-ordinates) in comma-separated format and import them using the Customer Import Wizard.

Customer Import Wizard

We know the value of monitoring customer time versus drive time. The best way to monitor your assets and reduce your capital acquisition plan is to maximize the vehicles you have by keeping them productive. We have automated the process of adding customer zones for operations with several hundred or thousands of customers.

The system will look at each entry in the list, attempt to resolve its location to the map, and if successful draw a zone around the located point.

Please note: Addresses containing postal or zip codes and / or post box addresses will not work, the address must be a street address without a zip or postal code.

Creating Valid Customer Lists

There are 2 types of customer lists you can create that are supported within Checkmate: customers with street addresses; or customers with latitude / longitude co-ordinates. The first row may contain headings if required. You will need to specify which configuration you have used, in the wizard, so remember the settings.

The quickest way to create a valid file is to use Microsoft Excel. Below are examples of supported formats:

B11 fx

	A	B
1	**Customer Name**	**Street Address**
2	ABC Wholesalers	4145 North Service Road, Burlington, Ontario, Canada
3	ACME Distributors	8 Orbit Drive, Cape May Court House, New Jersey, USA
4		
5		

Address list with headings

B7 fx

	A	B
1	ABC Wholesalers	4145 North Service Road, Burlington, Ontario, Canada
2	ACME Distributors	8 Orbit Drive, Cape May Court House, New Jersey, USA
3		
4		

Address list without headings

E7

	A	B	C
1	**Customer Name**	**Latitude**	**Longitude**
2	ABC Wholesalers	33.89425	-84.6923
3	ACME Distributors	33.78663	-95.46527
4			
5			

Co-ordinate list with headings

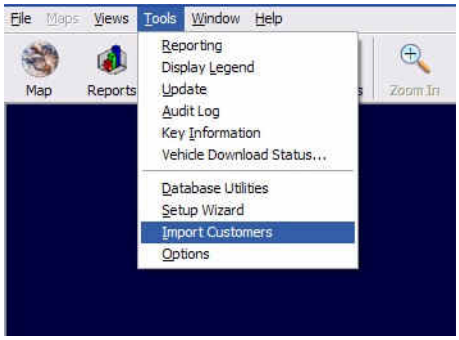
E8

	A	B	C
1	ABC Wholesalers	33.89425	-84.6923
2	ACME Distributors	33.78663	-95.46527
3			
4			

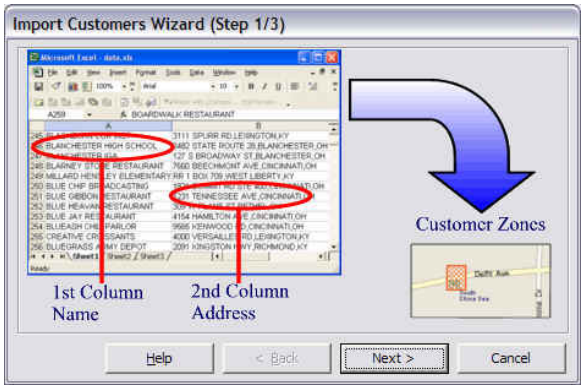
Co-ordinate list without headings

Once you have your customer address list ready and have saved it in a location that you can access from your computer, follow the steps below.

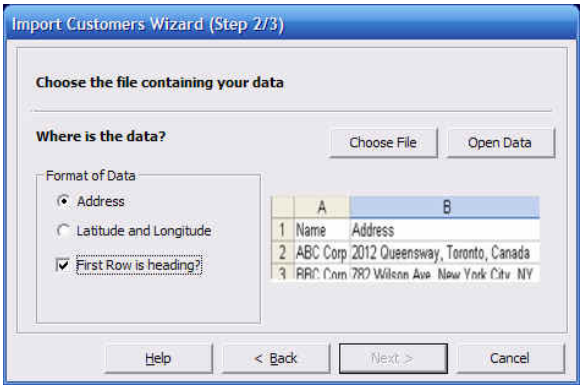
Importing your Customers Using the Wizard



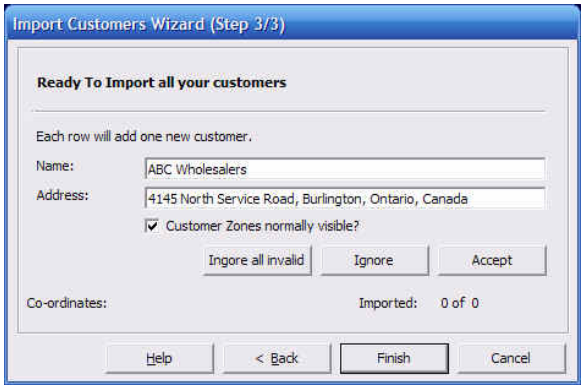
From the Tools menu, choose Import Customers.



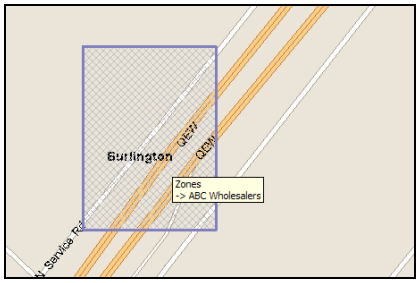
Click Next when prompted with Step 1.



Choose whether your file uses addresses or latitude & longitude values; and whether the first row contains a heading. Click **Choose File** to browse to your customer list workbook (xls file). Click **Next** to continue once you have chosen a file.



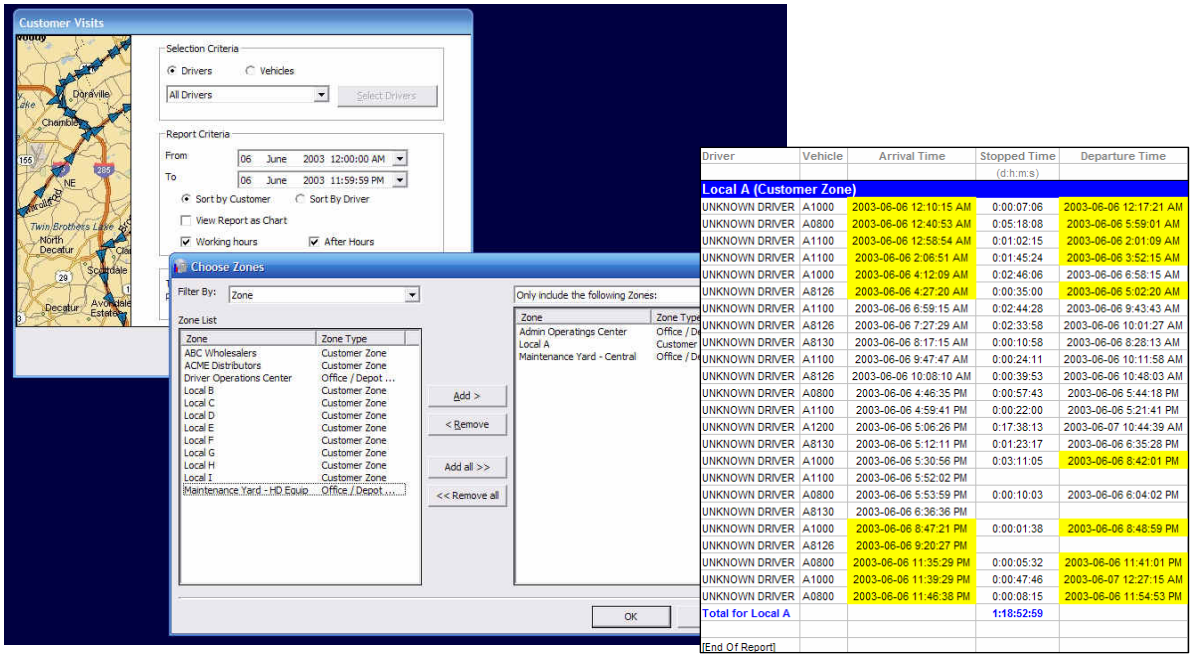
Click **Ignore all invalid** if you wish to import all addresses, ignoring any that it cannot create. Click **Ignore** if the system has stopped on an invalid address and you wish to ignore it. Click **Accept** if you want the system to step through each address one at a time. Click **Finish** if you want the system to run through all addresses but stop and prompt you when it hits an invalid address. You can change the address in the **Address** field and click **Accept**.



When you are complete, a new **Customer Zone** for all accepted entries will be in the system, in the shape of a rectangle.

Customer Visits Report

Now that you have set up your customers in Checkmate and have imported some trip data, you may want to see which vehicles visited which customers over a specific period. This information can help you manage your fleet better, to ensure maximum usage and customer service to your customers. This report can also be used for your office and home zones too.

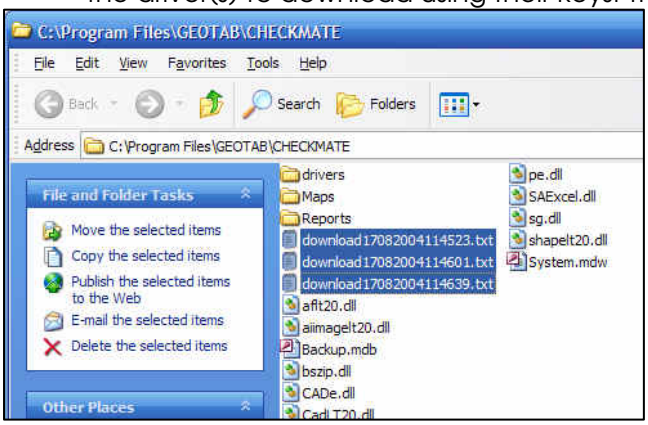


Driver	Vehicle	Arrival Time	Stopped Time (d:h:m:s)	Departure Time
Local A (Customer Zone)				
UNKNOWN DRIVER	A1000	2003-06-06 12:10:15 AM	0:00:07:06	2003-06-06 12:17:21 AM
UNKNOWN DRIVER	A0800	2003-06-06 12:40:53 AM	0:05:18:08	2003-06-06 5:59:01 AM
UNKNOWN DRIVER	A1100	2003-06-06 12:58:54 AM	0:01:02:15	2003-06-06 2:01:09 AM
UNKNOWN DRIVER	A1100	2003-06-06 2:06:51 AM	0:01:45:24	2003-06-06 3:52:15 AM
UNKNOWN DRIVER	A1000	2003-06-06 4:12:09 AM	0:02:46:06	2003-06-06 6:58:15 AM
UNKNOWN DRIVER	A8126	2003-06-06 4:27:20 AM	0:00:35:00	2003-06-06 5:02:20 AM
UNKNOWN DRIVER	A1100	2003-06-06 6:59:15 AM	0:02:44:28	2003-06-06 9:43:43 AM
UNKNOWN DRIVER	A8126	2003-06-06 7:27:29 AM	0:02:33:58	2003-06-06 10:01:27 AM
UNKNOWN DRIVER	A8130	2003-06-06 8:17:15 AM	0:00:10:58	2003-06-06 8:28:13 AM
UNKNOWN DRIVER	A1100	2003-06-06 9:47:47 AM	0:00:24:11	2003-06-06 10:11:58 AM
UNKNOWN DRIVER	A8126	2003-06-06 10:08:10 AM	0:00:39:53	2003-06-06 10:48:03 AM
UNKNOWN DRIVER	A0800	2003-06-06 4:46:35 PM	0:00:57:43	2003-06-06 5:44:18 PM
UNKNOWN DRIVER	A1100	2003-06-06 4:59:41 PM	0:00:22:00	2003-06-06 5:21:41 PM
UNKNOWN DRIVER	A1200	2003-06-06 5:06:26 PM	0:17:38:13	2003-06-07 10:44:39 AM
UNKNOWN DRIVER	A8130	2003-06-06 5:12:11 PM	0:01:23:17	2003-06-06 6:35:28 PM
UNKNOWN DRIVER	A1000	2003-06-06 5:30:56 PM	0:03:11:05	2003-06-06 8:42:01 PM
UNKNOWN DRIVER	A1100	2003-06-06 5:52:02 PM		
UNKNOWN DRIVER	A0800	2003-06-06 5:53:59 PM	0:00:10:03	2003-06-06 6:04:02 PM
UNKNOWN DRIVER	A8130	2003-06-06 6:36:36 PM		
UNKNOWN DRIVER	A1000	2003-06-06 8:47:21 PM	0:00:01:38	2003-06-06 8:48:59 PM
UNKNOWN DRIVER	A8126	2003-06-06 9:20:27 PM		
UNKNOWN DRIVER	A0800	2003-06-06 11:35:29 PM	0:00:05:32	2003-06-06 11:41:01 PM
UNKNOWN DRIVER	A1000	2003-06-06 11:39:29 PM	0:00:47:46	2003-06-07 12:27:15 AM
UNKNOWN DRIVER	A0800	2003-06-06 11:46:38 PM	0:00:08:15	2003-06-06 11:54:53 PM
Total for Local A			**1:18:52:59**	
[End Of Report]				

10. HAVING REMOTE DRIVERS

In certain environments, it may not be feasible for your drivers and vehicles to return to your yard very often. In these cases you end up with outdated and incomplete trip data for those vehicles when reporting or analyzing your fleet, simply because they cannot download their trip data.

You have several options to cater for these types of situations. If your remote drivers have access to a PC, you could run the GEOPORT Downloader in standalone mode. This will allow the driver(s) to download using their keys. The GEOPORT Key Reader will create a dump file for each download and store them in the specified download directory (usually C:\Program Files\GEOTAB\Checkmate).

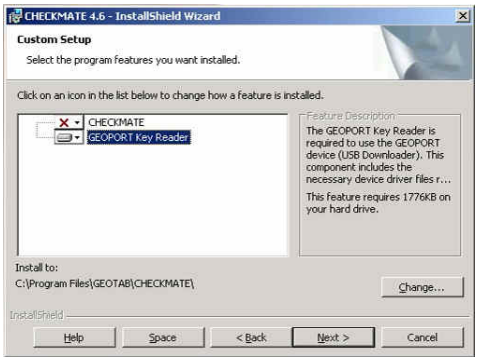


Because the trip data is now in files on the remote computer, the user can email them off to the fleet manager, or dial in and copy them over to a network folder, for example.

If the remote driver will not have access to a computer with a GEOPORT Downloader, the only feasible way to get his or her trip data as often as possible would be to issue the driver more than one driver data key. Having more than one key will allow the driver to send in one with latest trip data and still have another for download when required. The keys would go back and forth between the remote driver and fleet manager.

Installing GEOPORT Key Reader as Standalone

If you want, you can install the GEOPORT Key Reader on its own, without installing Checkmate. To do so, simply follow the standard installation procedure of installing Checkmate, choosing Custom Installation when prompted. You can remove the Checkmate option so that only the GEOPORT Key Reader will be installed.



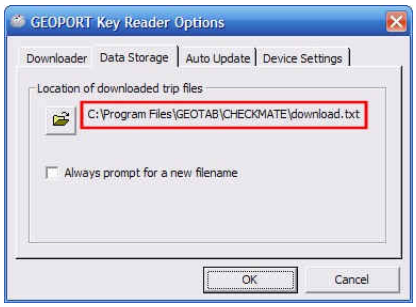
Warning: Please ensure that you adhere to the standard licensing requirements as outlined in the Checkmate End-User License agreement.

Handling your Downloads

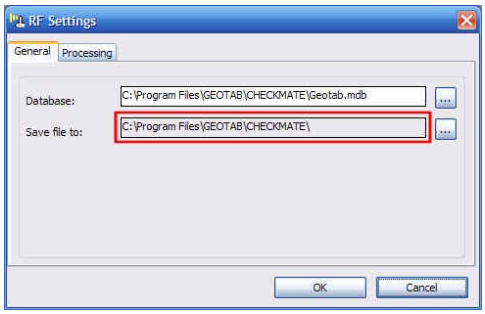
A download (trip data) file is a small, encrypted text file that contains all the relevant information about the vehicle, driver and recent trips. Whenever you upload from a key to the GEOPORT Key Reader or when GEOPORT RF uploads from a vehicle wirelessly, the system creates a download file for each download.

By default, a key download file is prefixed with `*download*' followed by a series of numbers (date and time of the download) and uses .txt (text file) as the file extension. An RF download file is a series of numbers (date and time of the download) and also uses .txt (text file) as the file extension.

Both the GEOPORT Key Reader and GEOPORT RF saves each download to the *Program Files\GEOTAB\Checkmate* folder by default.



Path of your download files for **GEOPORT Key Reader**



Path of your download files for **GEOPORT RF**

When you receive download files from remote sites, you would just need to move those download files into the specified folder (where the Update process has bee set up to import from) and run the Update process. See **Section 6 - *Importing Your Trip Data*** for more information.

These files are analyzed and imported by the system (during the Update process or during the Auto-update process) and then deleted once successful.

Using multiple Keys Per Driver

In the situation where you have one driver with multiple keys, each key has to have a unique description in the Driver Name field of the Driver Editor (see Section ***4 - Adding Drivers*** for more information). It is not possible to assign more than one key for one driver so you will effectively have 3 `drivers' for that one person.

11. RUNNING CHECKMATE IN A LARGE ORGANIZATION

Checkmate is designed to be able to support a small, one-person vehicle right up to a multi-user, multi-branch international corporation. The system data repository can be either Microsoft Access or Microsoft SQL Server 2000.

There is no hard and fast rule as to whether you should use the standard Access database or rather use a Microsoft SQL Server, it all depends on the amount of data you want to keep, how many vehicles you will be monitoring and how many users will be accessing the data in Checkmate concurrently.

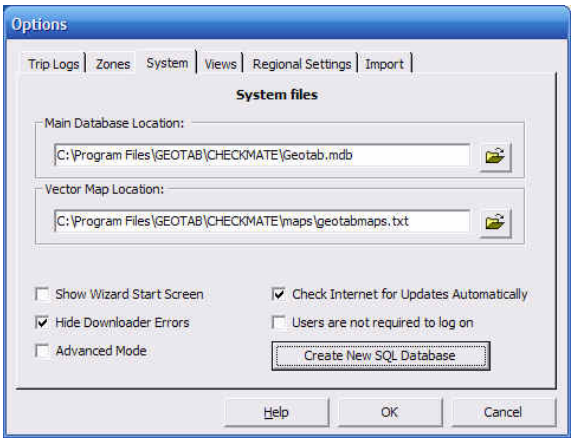
As a general rule of thumb, over 20 vehicles in an organization should consider Microsoft SQL Server. There is a cost to this, please consult your local Microsoft reseller for more information.

Microsoft SQL Server

With CHECKMATE, you can choose to use a Microsoft SQL Server 2000 database instead of the default Microsoft Access database. This option should only be used if you have a good understanding of Microsoft SQL and have legally installed the Microsoft SQL Server 2000 on your network.

Note: Microsoft SQL Server 2000 must be installed in **Mixed Authentication Mode**, not Windows Authentication Mode

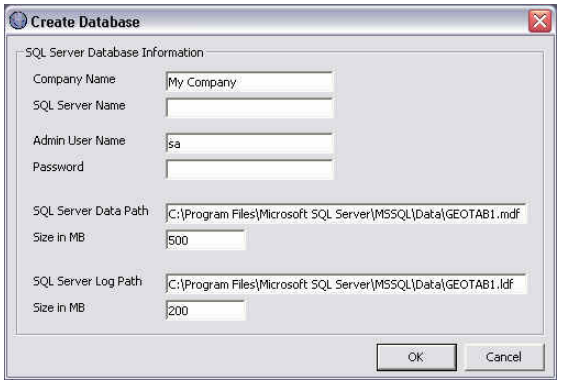
How to Create the SQL Database



Go to the **OPTIONS** menu found in the Tools drop down menu and choose the **SYSTEM** tab.

Before creating the database, ensure that the SQL Server is running, you have the server name or IP address, you have network access to the SQL Server and you have a SQL login with administrative permissions.

When you click the **Create New SQL Database** button you will be prompted to enter database-specific information required for the creation of the database.



Company Name is the name of your company

SQL Server Name is the name of the server machine that has Microsoft SQL Server 2000 installed. This can either be the computer name or the IP address (refer to your system administrator if you are unclear about this information).

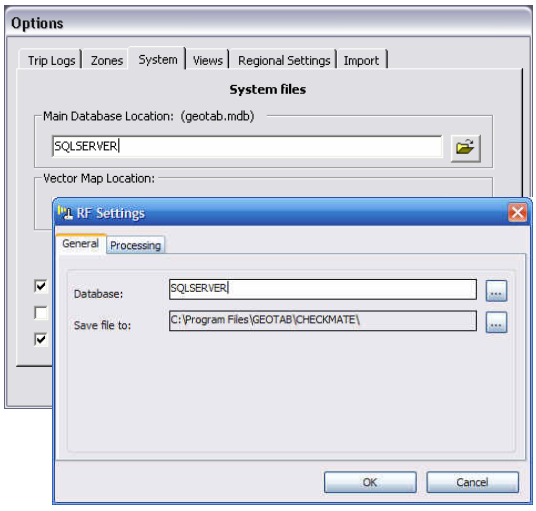
Admin User Name must be a SQL user with full administrative rights (such as the **sa** account).

Password is the password of the Admin User Name.

SQL Server Data Path (Size in MB) is the default path to the SQL database that will be created. Change this path if you have installed MS SQL in a different location other than the default. **DO NOT** rename the GEOTAB1.mdf file. The size should be left at 500, and will grow automatically if required.

SQL Server Log Path (Size in MB) is the default path to the SQL log files for the database (see above).

Once you have entered and verified the correct information, click OK. You will be warned that any database called GEOTAB1 existing on the SQL Server will be deleted before the new one is created.



The creation of the database should only take a couple of minutes depending on the speed of your server, network and computer.

When you are connected to the SQL Server, the **Main Database Location** (Checkmate) will indicate the **Server Name** (not the database name). You can switch between the SQL database and any MS Access database by either entering the MS Access path or the SQL Sever Name.

In the GEOPORT RF console, the database field should indicate the Server Name (or IP address) of the SQL Server machine.

Creating Users, Branches and Regions

If your setup includes several branches or regions, you may wish to enable a user-level security. Checkmate's security provides the ability for an administrator to restrict branch

data from other branches. Having this enabled is also a neat way to filter the data viewable by branch or region.

All GPS Data is assigned to a branch (default is 'None'), which includes Drivers, Vehicles, Zones, Exception Rules and Trip Data. If you have two branches sharing one CHECKMATE database and do not wish the one branch to view the other branches data, follow the procedures to create users, branches and regions.

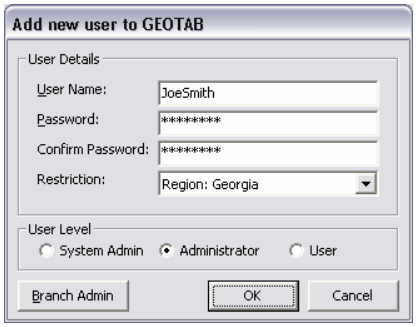
How to create a user:

In the Setup Wizard, you should see the **GEOTAB Users/Branches/Regions** option. If you **do not have this option**, you must enable user security first: Choose **Tools** -> **Options** and click the **System** tab. Ensure that the **Users are not required to log in** option is deselected (not checked) and click **OK**. Close down CHECKMATE and run it again. You will be prompted with a logon screen.

The default user name is **Administrator** and the password is *blank*, i.e. no password.

Once you have successfully logged in, you must then go back to the Setup Wizard and choose the **GEOTAB Users/Branches/Regions** option (as above).

In the **CHECKMATE User Manager**, you should see the default Administrator account in the User List.



To add a new user, click the **Add** button.

Enter the necessary user information, including a user name and password; reconfirm the password; restriction (see below) and User Level.

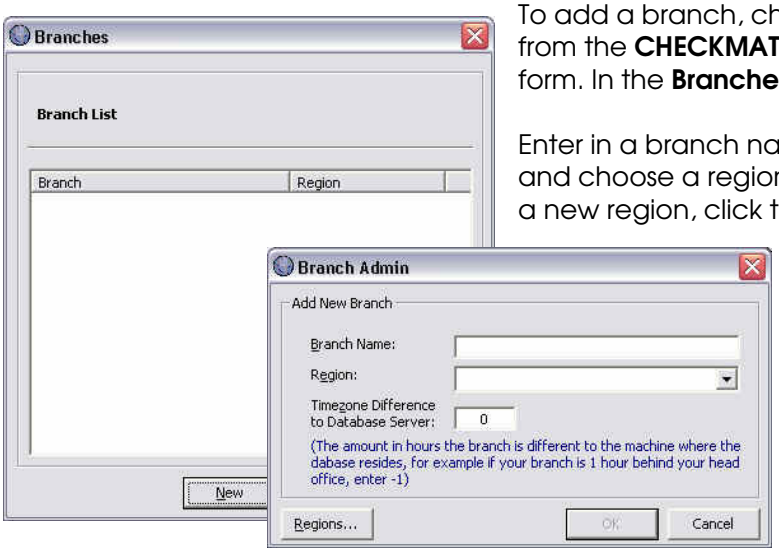
The **Restriction** option relates to a branch or region.

What are the different user levels?

There are three possible user levels: System Admin, Administrator and User. The **System Admin** level allows access to the entire system and all the data. The **Administrator** is limited to the assigned restriction in terms of what data can be viewed but is allowed to add in zones, exception rules, etc for that restriction. The **User** level is essentially a read-only level, limited to the assigned restriction.

How to Add Branches and Regions (Restrictions)

A branch is part of a region and as such, a region can have several branches but a branch cannot belong to more than one region.



To add a branch, choose the **Branch Admin** option from the **CHECKMATE User Manager** or **User Editor** form. In the **Branches** form, click **New**.

Enter in a branch name (which must be unique) and choose a region from the list. If you wish to add a new region, click the **Regions** button. You will be prompted with a **Regions** form where you can add or edit regions as required (region names must be unique). Once you have added in the necessary regions, close the **Regions** form and choose a region in the **Branch Admin** form.

The **Timezone Difference to Database Server** option is very important if you are running several branches over different time zones. All GPS data is transmitted in GMT (Greenwich Mean Time) so in order for CHECKMATE to know what the local time for a particular trip is, you must tell the system what the difference in time your branch is to the site where the database resides. This value **must not take** daylight savings into account as this will be calculated automatically when required. So if, for example your branch is 3 hours behind your head office (where the database resides), you must enter a value of -3.

What happens next?

Once you have created the necessary users, branches and regions and assigned each user the right security levels, each user can then log on with his or her new user name and password. The minimum restriction will automatically apply to each user who logs on.

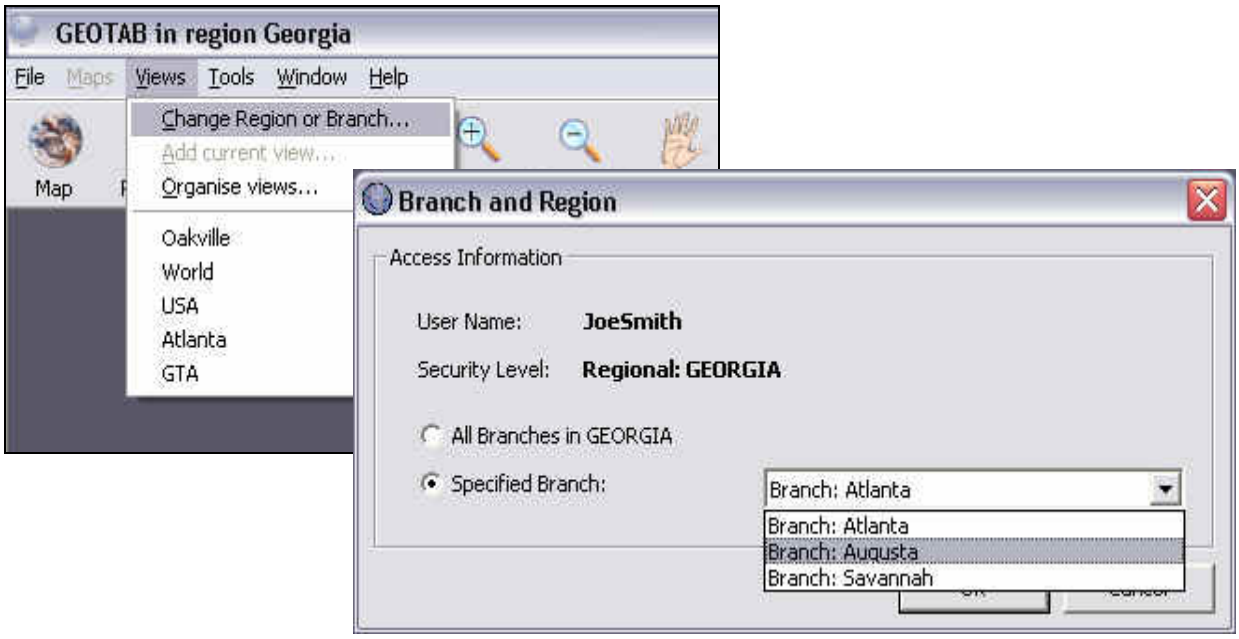
So, if you have a user with a regional restriction, they will only see all data linked to each branch within that region. That user may change the level down to branch-level if required. If you have a user with a branch restriction, that user will only see data linked to that branch and cannot change any level.

How to change your Restriction Level

Once you have logged into CHECKMATE, you can see at what level you are restricted to by looking at the main title bar, which will tell you what branch or region you are restricted in or will not have anything in the case of no restrictions if you are an administrator.

To change your restriction level, choose the Change Region or Branch option from the Views Menu.

Depending on your access level, you can choose regional or branch-specific restrictions. These levels can be changed at any time.



12. USING CUSTOM MAPS WITH CHECKMATE

Checkmate currently supports two different mapping technologies, Microsoft MapPoint® and ESRI®-based maps. Choosing which platform to use is determined by your location and what map detail-levels you require.

Checkmate automatically looks to see which mapping system is installed and uses the more suitable one, based on your view default view. So, if you have Microsoft MapPoint North American Edition installed, whenever you go to a View that falls within the North American co-ordinates, Checkmate will use MapPoint as the default map. If you go to a view (for example the World view) outside of the MapPoint co-ordinates, the ESRI viewer will open and use whatever ESRI shape-file maps are available.

ESRI vs MapPoint

The two technologies are very different to each other. Microsoft MapPoint is an independent Microsoft Office application that has a proprietary mapping engine built in and can be run as an independent mapping application, whilst ESRI is a mapping standard. Checkmates support for ESRI allows users to add in their own customized ESRI-based shapefile (.shp) maps.

Microsoft MapPoint currently only has mapping support for USA, Canada and most of Europe (see www.microsoft.com/mappoint for more information) and the maps are not editable.

ESRI is supported around the world and provided that the shape files are configured correctly, you can use these maps within Checkmate.

For more information on integrating ESRI maps, please contact your local GEOTAB representative.

13. MAINTAINING YOU DATABASE

Backups

It is good practice to back up your database(s) on a regular basis. Corruption, viruses or computer failure may result in loss of data, which in most cases is irrecoverable without sufficient backups.

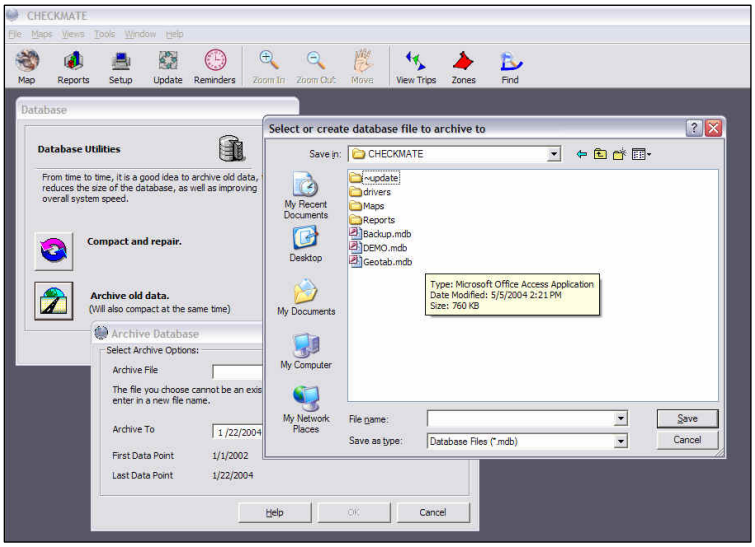
If you are using a Microsoft Access-based database (MDB file), you would simply need to back up the file located in your **Main Database Location** field under **Tools** -> **Options** -> **System** tab. Remember to back up any archive databases and download files you haven't imported yet, too. These files can be copied to another machine, a backup device, or backed up onto tape, CD or DVD.

Microsoft SQL Server has a built-in Backup process. Refer to your SQL documentation for more information on backing up your SQL database (GEOTAB1).

Archiving

Note: The archive and repair options are only available for Microsoft Access databases only, not for Microsoft SQL Server databases.

Making regular archival copies of the database is good practice. To save an archive copy of the database, simply go to the **Database Utilities** screen found in the **Tools** drop down menu.



Click **Compact and repair** to do a quick check of your database. This does an integrity-check of your database and shrinks the file down to the minimum it is allowed.

Click **Archive old data** to save a copy of the database. It is good practice to store the archive in a machine or removable media other than the host computer.

You will be prompted for a database file name and a date period you wish to archive to. Once selected, all data to the date you selected will be moved over to the database you selected.

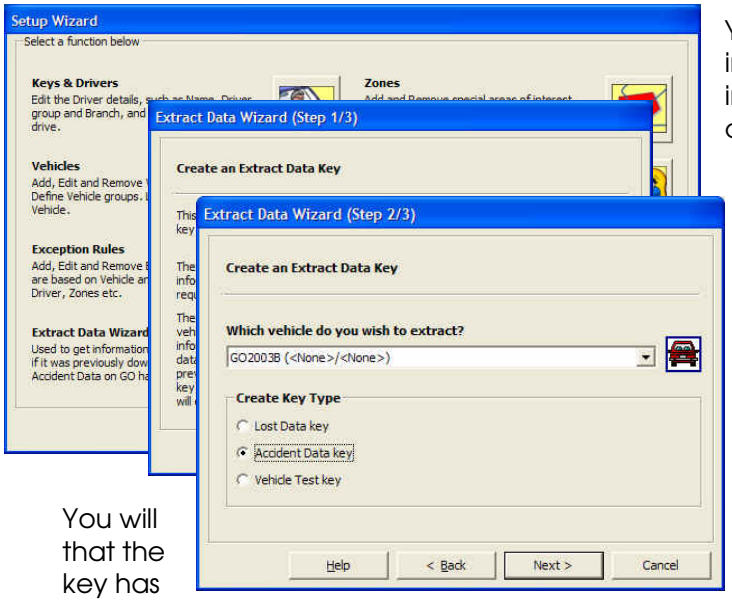
14. GETTING ACCIDENT OR LOST DATA

Creating an Accident Data Key

Accident data is separate second-by-second data that gets recorded automatically in the vehicle, each time it is in use. The memory stores approximately the last 90 minutes of driving activity at any given time.

It may become necessary for you to access the accident memory of a particular vehicle installed with a GEOTAB GO unit. To do this you will need a standard key that does not have any trip information (all data on the key will be lost).

In CHECKMATE, navigate to the Setup Wizard and click the Extract Data Wizard button.



You will be prompted with a wizard informing you of various details about it, including specific information about creating the accident data key.

Follow the instructions on the wizard, selecting the vehicle you wish to extract and ensure that the key type is set to Accident Data key.

When you have successfully programmed the accident data key, you can take the key to the vehicle you wish to view and insert it.

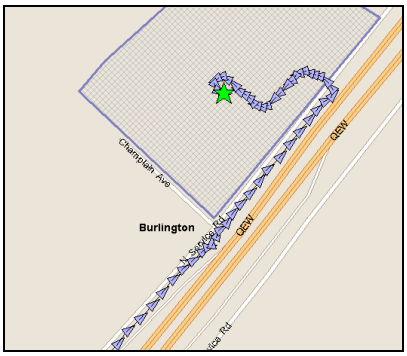
You will initially hear a single beep (indicating that the key has unit has acknowledged that a valid been inserted), then a series of quick beeps (indicating that the unit is busy communicating with the key) and finally when finished a double-beep which tells you that the current task is complete. Remove the key from the vehicle unit and download via the GEOPORT Downloader, as you would a normal data key. The key will remain an accident key until you reprogram it differently.

Note: The accident data key can be used for any vehicle in your fleet, and not just the one it was originally programmed for!

Viewing your Accident Data

To view your accident data, simply download the accident data key, as per above and import the trip data into Checkmate using the Update function. After that you can simply go to the View Trips function, and choose the specific vehicle. Refer to ***Section 6 - Importing Your Trip Data*** and ***Section 7 - Understanding your Driver Activity*** for more information.

Below is an example of what second-by-second accident data looks like.



Creating a Lost Data Key

When someone uploads trip date from a GO unit to a key and then loses the key before that trip data is downloaded to Checkmate, the system will not have that trip data and you will be faced with inaccurate reports and trip data. The GEOTAB GO unit never deletes trip data after a key download, it merely sets the pointers to where the last download took place so it is possible to recover that missing data, in the event of a missing or lost key.

To create a **Lost Data** key, follow the same instructions as the accident data key procedure above, choosing the **Lost Data Key** type when prompted. Ensure that you choose the right vehicle from the list, when prompted.

The Lost Data key you create for a particular vehicle is a programming key that is used to instruct the specified vehicle to release its full memory when next a driver data key is inserted.

To program the vehicle unit, insert the Lost Data Key and wait for the double-beep. After that, insert a standard Driver ID and Data key. You will hear a series of quick beeps during the upload process, followed by either a double-beep or 2 double-beeps. If you hear 2 double-beeps, this indicates that the vehicle still has trip data on it and you need to insert another Driver ID and Data key, to get the rest of the trip data.

Viewing your Lost Data

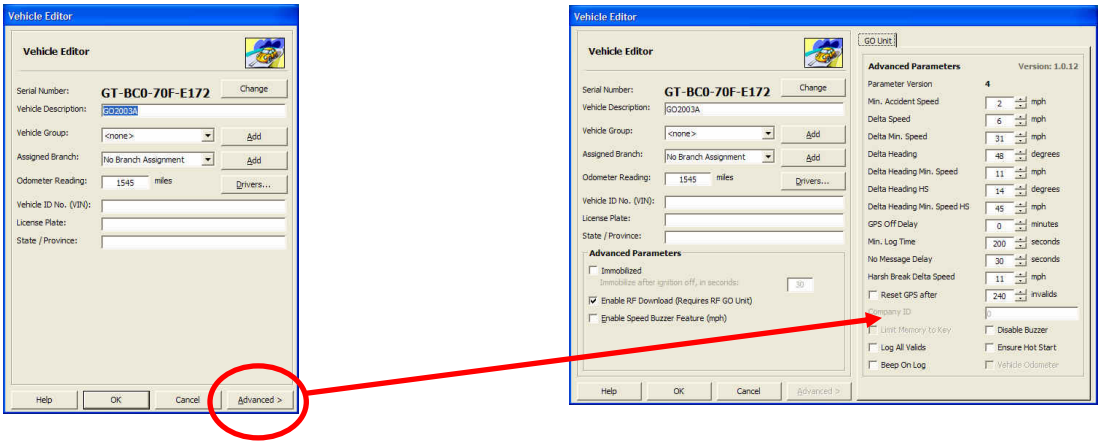
To view your lost data, simply download the driver data key(s) you used to upload the trip data, as per above and import the trip data into Checkmate using the Update function. After that you can simply go to the View Trips function, and choose the specific vehicle. Refer to ***Section 6 - Importing Your Trip Data*** and ***Section 7 - Understanding your Driver Activity*** for more information.

15. ADVANCED VEHICLE FUNCTIONS

Changing your Vehicle Parameters

Sometimes it may become necessary to adjust the unit settings to reflect your particular driving requirements. These changes may include adjusting the algorithms (such as delta heading angle and speed thresholds) or changing usage settings like disabling the buzzer or enabling the speeding warning indicator.

To access the advanced settings of a particular GO vehicle unit, ensure that you are running CHECKMATE in **DIAGNOSTICS MODE** (see ***Section 17 - Checkmate Modes***). Navigate to the **Vehicle List** in the **Setup Wizard** and edit the GO vehicle you wish to modify. Click the **Advanced** button to display the advanced settings of the selected vehicle.



The advanced unit parameters for a GO unit affect how often the unit will record a trip log. Because GEOTAB GO is not simply a time-based, position-based or distance-based recorder, there are advanced algorithm settings within the unit that provides the logic that indicates when the unit will log, for example when the vehicle direction changes over a specific degree; or the speed increases over a certain value.

Enable RF Download Feature

Please note that this feature is not for RF GO units, only for key GO units that get field-upgraded to RF after installation.

This setting is a parameter that is used on GEOPORT RF-enabled GO units, to have the RF component activated or not. When enabling RF for the first time on GO units that have been upgraded to RF, you will be required to program the vehicle unit via a **Vehicle Programming Key** prior to having RF downloading activated. **If you have RF-enabled units installed, you are NOT required to enable this setting and reprogram the units via a programming key.**

Changing this setting will be ignored by the GEOPORT RF, when updating your vehicle parameters via RF.

Immobilization Feature

This feature must be activated if driver accountability is required i.e. if there are multiple drivers using different vehicles and you wish to track which driver was using a specific vehicle at any given time. Once the vehicle unit has been programmed with this feature a driver key is required to be inserted, before starting the vehicle. There is an audible warning if a driver forgets to insert his key (or if the optional immobilization module has been installed in the vehicle, the vehicle will not start until a valid key has been inserted).

When you enable immobilization, you must tell the vehicle unit how long it must wait until it immobilizes, after the ignition has been turned off. The default is **30 seconds**, which is a good time to allow a driver to restart without having to reinsert his key, should he need to.

Speed Buzzer Feature

The speed buzzer option is a feature that allows you to audibly warn the driver when he or she reaches a designated speed. The onboard buzzer will give out an audible alert (constant beeps) when the speed of the vehicle reaches the **Start Buzzing** speed and will stop buzzing when the vehicle drops below the **Stop Buzzing** speed.

The default values for the speed option, when enabled are **81 mph or 131 km/h** for the **Start Buzzing** field; and **80 mph or 129 km/h** for the **Stop Buzzing** field.

Parameter Version

The **Parameter Version** value is the version number of the parameters for GEOPORT RF-based systems. This value increments each time the vehicle unit is updated via GEOPORT RF, to ensure consistency. Refer to the **GEOPORT RF Guide** for more information.

"Min. Accident Speed" Feature

GEOTAB GO has a special memory bank that records second-by-second trip information, including GPS position, speed and date. This memory is automatically written each time you are driving the vehicle and when full wraps around and overwrites the oldest data, to provide the most recent high-resolution trip data, approximately the last 90 minutes of the most recent driving.

In order to cater for long and excessive idling, GEOTAB GO has a feature where you specify the minimum speed at which the unit must record accident data, the default being **2 mph or 4 km/h.**

Please note: Due to the nature of GPS and GPS fluctuations due to satellite triangulations, it is possible that the unit records a speed even if the vehicle is idling and not moving. These values are not normally higher than 1 or 2 mph / 3 or 4 Km/h.

"Delta Speed" Setting

The unit will log a speed change when the speed changes by this value. For example, a vehicle with defaults settings (6 mph change) is driving along at 50 mph and then accelerates to 60, the unit will write a log when 56 mph is reached.

This rule is only applied when the speed is greater than the **Delta Min Speed** value (see below). The default value is **6 mph or 9 km/h**.

"Delta Min Speed" Setting

This value determines the start speed of the **Delta Speed** setting (see above), i.e. the unit will not log speed changes if the vehicle is driving below this speed. The default value is **31 mph or 50 km/h**.

"Delta Heading" Setting

The value determines when the unit will log, based on change of position (delta) and is measured in degrees. For example, if a vehicle is traveling on a straight road and then turns a 90 degree corner, the unit will log a record when the delta change passes 48 degrees from the previous point.

The unit will only log when the speed of the vehicle is higher than **Delta Heading** (see below). The default value is **48 degrees**.

"Delta Heading Min Speed" Setting

The value indicates the minimum speed the vehicle must be going in order for the **Delta Heading** value will be used to record a log point. The default value is **12 mph or 20 km/h**.

"Delta Heading HS" Setting

When a vehicle is traveling at high speeds, the angle of change is usually a lot less than if the vehicle was driving slower, i.e. highway corners are much more gradual than downtown intersections, for obvious reasons. For this reason the GO unit has a Delta Heading value for high speeds, and the value of this parameter should be considerably less than the **Delta Heading** value described above.

This allows you to more accurately record direction changes when speeds are higher and angles of change are lower.

The unit will only use this value to record if the speed is higher than **Delta Heading Min. Speed HS** (see below). The default value is **14 degrees**.

"Delta Heading Min. Speed HS" Setting

The value indicates the minimum speed the vehicle must be going in order for the **Delta Heading HS** (see above) value will be used to record a log point. The default value is **45 mph or 72 km/h**.

"GPS-Off Delay" Setting

When you switch off a vehicle with a GO unit installed, the unit will record the last known position of the required satellites and then shut down to conserve battery power. When you start up the vehicle again, the unit will use the last known satellite positions to search for the GPS satellites and lock on again, reducing GPS search times.

The GPS-Off Delay setting allows you to program the unit to remain latched onto satellites until the number of minutes you specify have passed, after which the unit will follow the normal shutdown process.

This setting may be useful when you require very accurate GPS trip information and your vehicle(s) makes frequent stops, with the ignition turned off.

The default value is **0 minutes**, i.e. the GPS engine shuts down as soon as you turn off the ignition.

Useful Fact: GPS satellites are always moving around in orbit, so when you start your vehicle up, it can take up to a couple of minutes to relocate those satellites and to validate position.

"Min. Log Time" Setting

This value, recorded in seconds, tells the unit what the maximum time period must be before the unit records a record, regardless of speed, distance or direction. This ensures that the unit will record sufficient trip information for vehicles driving long, straight roads at a constant speed. The default value is **200 seconds**.

"No Message Delay" Setting

This setting is the number of seconds during which if no GPS record is received, a log will be written and the GPS engine will be restarted. The default value is **30 seconds**.

"Harsh Brake Delta Speed" Setting

This setting is the negative speed per second at which a harsh braking log will be written. The default value is **11 mph/s or 18 km/h/s**.

"Reset GPS After" Setting

This is the number of invalid logs allowed before logging a record and resetting the GPS engine. The default value is **240 invalid records**.

"Company ID" Setting

This feature is for future use and is disabled by default.

"Limit Memory to Key" Setting

This feature is for future use and is disabled by default.

"Disable Buzzer" Setting

If you do not wish to receive audible indication from the unit whatsoever (whether it is speeding beeps or you are downloading), you can disable the buzzer on the unit by enabling this option.

This may be useful if you wish to install and operate a unit inside a vehicle without distracting the driver, or if you wish the unit to be used covertly.

The default value is off, i.e. the buzzer is enabled.

"Log All Valids" Setting

The setting is most commonly used for troubleshooting potential issues or when you wish to monitor a vehicle closer than the standard logging. By enabling this option, the unit will log a valid point every second.

When you transfer and view the trip information in CHECKMATE, you will see very accurate data, but because the unit will be writing a new data point every second, your trip information will begin to be overwritten (wrapped around) after approximately 2 hours.

The default value is off, i.e. the unit only logs based on the algorithms.

"Ensure Hot Start" Setting

If you enable this setting, the unit will wake up and locate the GPS satellites on a regular basis, always recording the last known positions of the satellites, when the vehicle is off. This will ensure that latch time will be very quick when the vehicle is started up, resulting in very limited data loss.

The system is designed to stop waking up when it cannot find satellites for 2 or more attempts, which caters for the common scenarios where the vehicle is parked underground or in a garage, where satellite coverage is not possible.

Enabling this feature will ultimately lead to more battery power consumption from the unit, so if a vehicle is not driven for some time, the battery can potentially be drained quicker than with normal use.

The default value is **off**, i.e. the unit does not wake up on a regular basis to search for satellites.

"Beep On Log" Setting

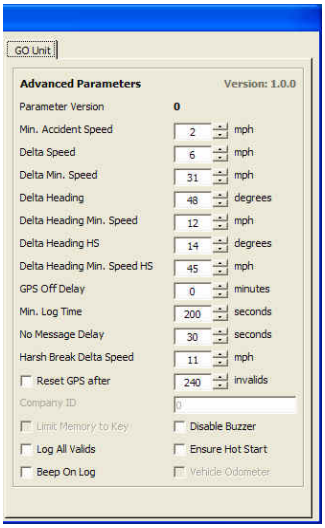
The unit will beep each time it writes a log, when this setting is enabled. The default value is **off**, i.e. the unit does not beep on each log. This setting overrides **Silent Mode**.

"Vehicle Odometer" Setting

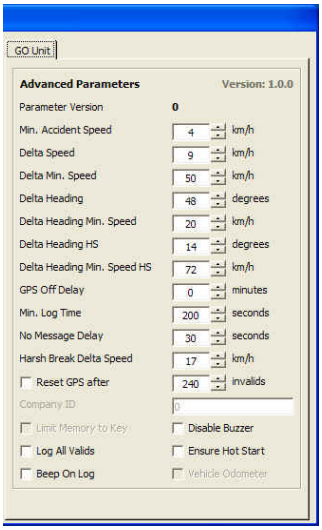
This feature is for future use and is disabled by default.

Advanced Parameter Defaults

To summarize the defaults described above, below are the factory defaults for a GO unit (in US and metric values):



GO Defaults (US)



GO Defaults (Metric)

WARNING: DO NOT change these settings if you do not fully understand how they work! Contact your local GEOTAB Partner for more information.

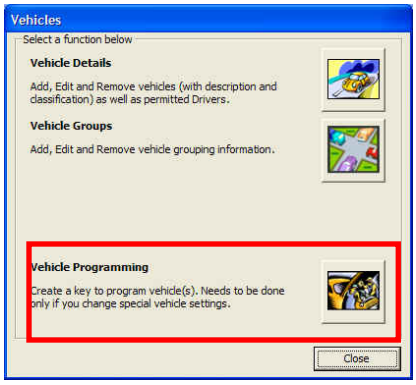
Programming your Vehicle

RF-Enabled GO Units

GEOPORT RF manages your parameter programming automatically. If you make a change to a vehicle parameter, the system will know about the change and program that parameter into the vehicle unit the next time that unit communicates with the GEOPORT RF Server.

Key-based GO Units

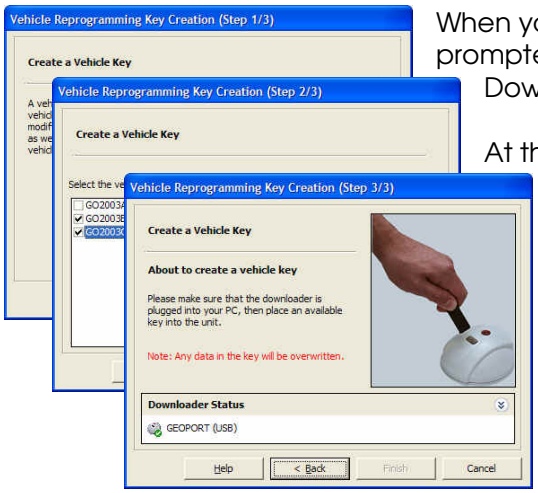
If you make changes to the parameters of a particular GO unit (that is not RF-enabled), you will have to create a special programming key with the new settings, and then program the vehicle with the programming key.



To do this, you must first ensure that all settings are set to your requirements (see section above) and that you have a standard key without any trip information on it (all data on the key will be erased when you create the programming key.

In CHECKMATE, navigate to the Vehicles form in the Setup Wizard and choose the **Vehicle Programming** button.

Once you have done this, you will be prompted with a Vehicle Programming Key Wizard. Follow the instructions, selecting the vehicle(s) you wish to create the key for and finally inserting the key.



When you have completed the key creation wizard, you will be prompted and may remove the key from the GEOPORT Downloader.

At this point, you have created a special key that holds instructions and setting values for the specified vehicles you selected in the Vehicle Programming Key Creation Wizard.

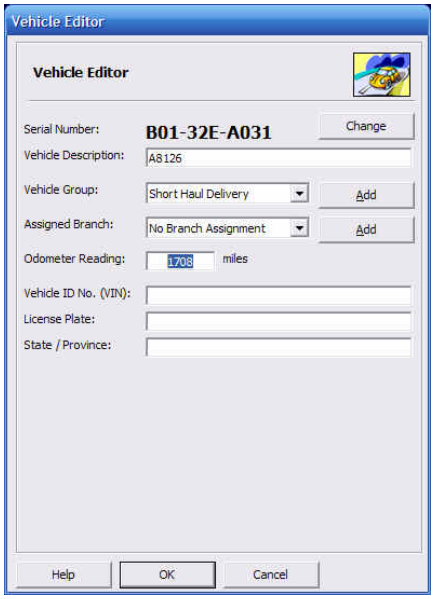
To program the vehicle, simply insert that special key into the touch-key housing when the vehicle is off (i.e. the LED is constantly flashing). You will hear a double-beep indicating that the unit and key have completed the necessary tasks and you may remove the key. Repeat the process for all vehicles you selected.

The key will remain a programming key with the specific parameter values until you reprogram it as a driver key or some other system key.

Important Note: It is very important to program the vehicles after you have made changes to the parameter settings in CHECKMATE, otherwise the vehicle unit values will not be the same as what is shown in the CHECKMATE system.

16. MAINTAINING YOUR FLEET WITH EVENTS

Adjusting Your Vehicle Odometer

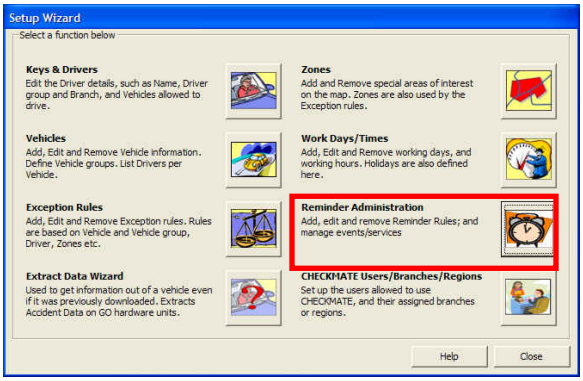


Tracking your odometers on each vehicle is done automatically for you in Checkmate. When you first set up the vehicle, you should enter in the current odometer reading, and then Checkmate will increment that odometer reading based on the distance driven of that vehicle, each time trip information gets downloaded. It may, however be necessary to adjust the odometer reading in Checkmate from time to time, to correspond with the onboard odometer value.

To make an odometer adjustment, simply go to the vehicle entry in question, in the Vehicle Editor, and change the Odometer reading to the correct value, then click OK. The system will record the date you made the change

Setting Up Events

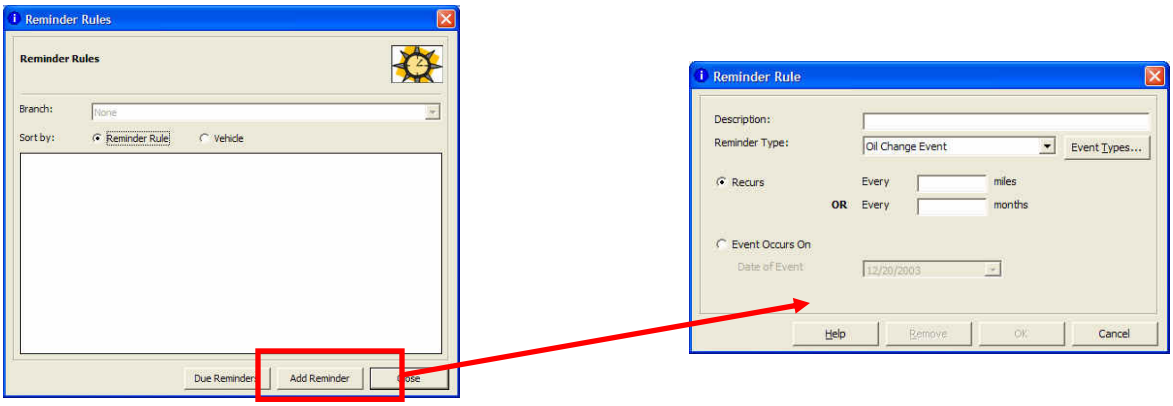
Using Event Reminders is a neat way to keep track of your vehicle services and license expire dates. The system provides you the options to create and manage your regular tasks, allowing you to make them recurring based on time or miles traveled or both.



There are four default events you can track for your vehicles, namely Oil Change; Tire Rotation; License Expiry and Lease Expiry. The system also allows you to add in your own events.

Miles-based events are tied into your vehicle's odometer, so it is important that you keep it up-to-date.

Creating an Event Rule

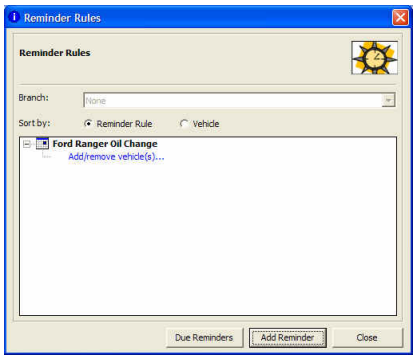


To begin, navigate to the Setup Wizard and click the Reminder Administration button.

The Reminder Rules form, by default, shows you a list of all your active events (if any), any vehicles assigned to those events, and the option of modifying your vehicles for each event. You can sort the events by Rule or by Vehicle.

Step 1 – Add Reminder

To add a reminder, click the **Add Reminder** button on the **Reminder Rules** form. Enter a description of the event (for example, Ford Ranger Oil Change). Next, select the right reminder type (or add your own in if you require a new type, by clicking the **Event Types** button).



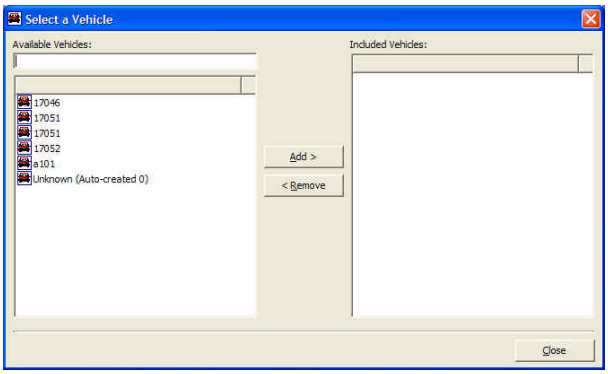
If the event will be reoccurring, choose the **Recurs** option, entering either the miles value (event occurs every x number of miles), the months value (event occurs every x number of months), or both. If the event is a once-off event, you can choose the **Event Occurs On** option and choose a date.

When you have completed all the necessary information, click **OK**. The Reminder Rule form will then have a new entry in it, with the option of adding new vehicles.

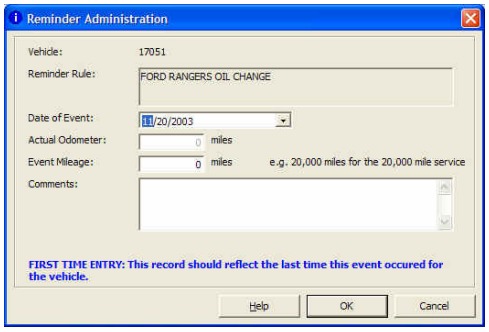
Step 2 – Assign Vehicles

Now that you have created the event, you must assign vehicles to it. In the **Reminder Rules** form, click the **Add/Remove vehicle(s)** list item directly under the event rule you wish to add vehicles to. You will be prompted with a list of available vehicles.

As soon as you add a vehicle (i.e. click on a vehicle in the **Available Vehicles** list and click the **Add** button), you will be prompted with the **Reminder Administration** form.



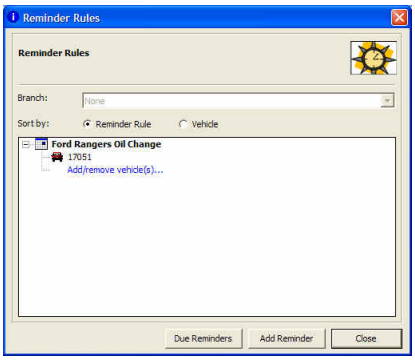
Please Note: If you have created a Once-Off type event, you will not be prompted with the Reminder Administration Form.



If it is a first time entry, you need to tell the system when the last known event took place (for example, if you are adding in a scheduled service event, you must tell the system when the last service for that particular vehicle took place). This is very important as the system uses this information to determine when the vehicle will next be due for the event.

You need to enter the date of the event, the event mileage and any comments you may have about the last known occurrence of the event. The system will calculate the actual odometer based on existing trip information, and give the nearest match for the event mileage, based on the actual mileage.

The **Event Mileage** is the number of miles (or kilometers) the vehicle was required to have for the particular event. For example, if you have a scheduled oil change every 20,000 miles for a particular vehicle, the event mileage for the first service will be 20,000 miles; the second service will be 40,000 miles, etc.



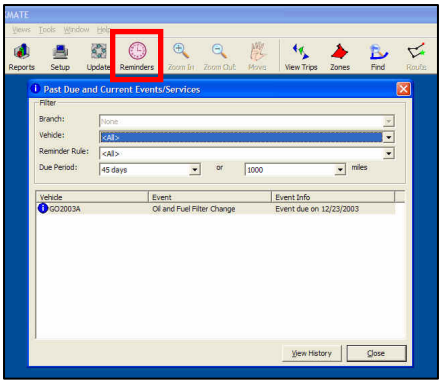
When you have added in the necessary vehicles and their respective information, you will see the vehicle(s) appear in the **Reminder Rules** form, under your event.

You can, at any time, go in and add or remove vehicles for each event. You cannot remove an event if you have vehicles currently assigned to it!

Viewing Reminders

Now that you have added in all the required event rules and assigned the relevant vehicles to each rule, you can view which events are up and coming at any time.

Please note that in the current version of CHECKMATE, the system will not automatically remind you of up-and-coming or overdue events, you have to go into the Reminder feature regularly.



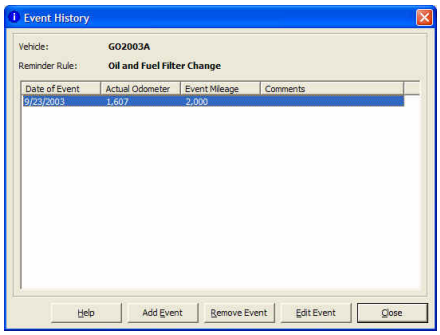
Go view the list of reminders, click on the **Reminders** toolbar button in CHECKMATE. You will be prompted with a **Reminders** form showing any currently due or overdue reminders.

The **Reminders** form can be filtered by branch (if you are a regional user); vehicle; reminder rule and / or due period (days or miles).

Did you know…?
When a particular event is overdue, the system will highlight it in red!

The reminder form also has a **View History** option, which will allow you to add in current events and view past history of a particular event.

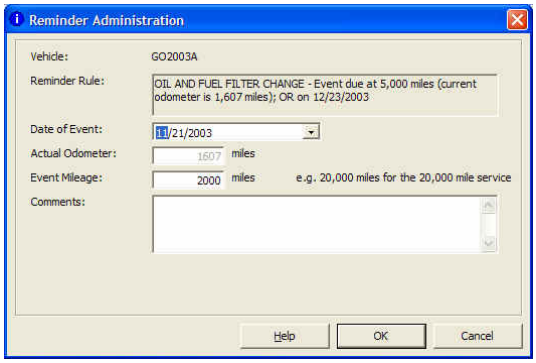
Adding an Event / Viewing History



Now that you have a number of event rules set up with vehicles assigned, you will have to keep the system up to date with events when they occur (for example, when a vehicle goes in for an oil change).

To do this, navigate to the **Event Reminders** form or **Event Rules** form (as described in the sections above), choose the relevant vehicle from the list for the particular event and click **View History** (or simply click on the vehicle if you are in the **Event Rules** form).

The **Event History** form will show all events that have occurred for the chosen vehicle and event rule. The list will show the date of the event, the actual odometer reading at the time of the event, the Event Mileage and any comments associated with that event.



The form also provides the options of adding a new event, removing an event and modifying an existing event.

To add a new event, click the **Add Event** button. You will be prompted with the **Reminder Administration** form, which has all the necessary information on the event (when it is due) and allows you to enter the date of the event, event mileage and any comments.

Once you have completed the necessary information, click OK and you will be brought back to the **Event History** form, showing your new event.

Now that you have added in a new event, the system will recalculate when that event is next due.

17. CHECKMATE MODES

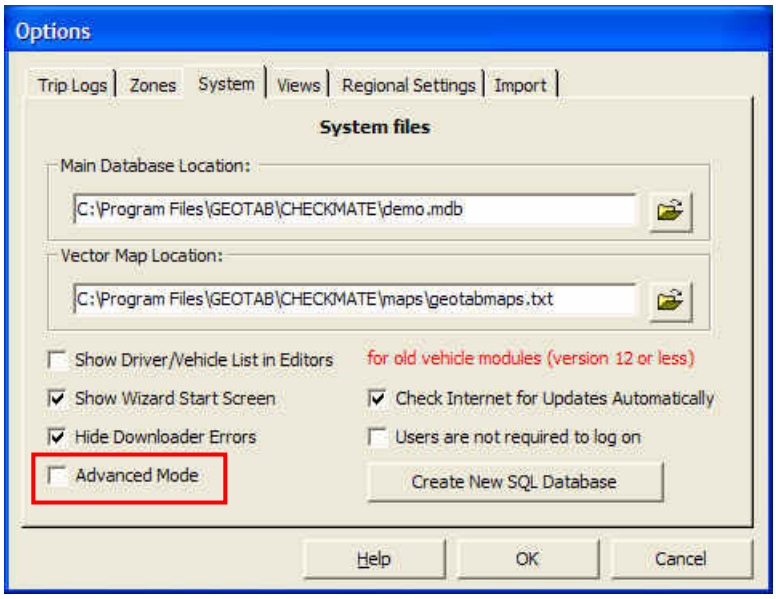
Before you can access most of the advanced settings described in this manual, you have to run CHECKMATE in either **Advanced** or **Diagnostics** mode. **Advanced** mode allows you to do uncommon tasks such as enabling the speeding buzzer or immobilization. **Diagnostics** Mode opens up more advanced settings such as unit algorithm settings.

Task	Adv.	Diag.
Add new drivers / vehicles manually	X	
Create vehicle programming key	X	X
Enable the immobilization feature	X	X
Enable the Speed Buzzer feature	X	X
Modify unit algorithms		X

Please note: Running CHECKMATE in diagnostics mode may result in changes that may adversely affect the overall system. Ensure that you are 100% comfortable with the basics of CHECKMATE before continuing.

Advanced Mode

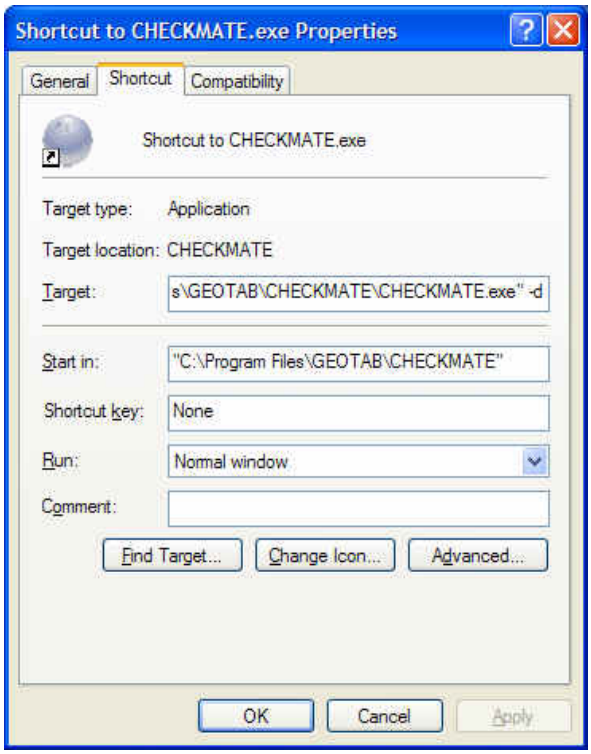
To enable Advanced Mode, choose the **Tools** menu item in CHECKMATE and click on **Options**. When the Options form loads up, select the **System** tab.



Click on the **Advanced Mode** option (you will be prompted with a warning message) and click OK.

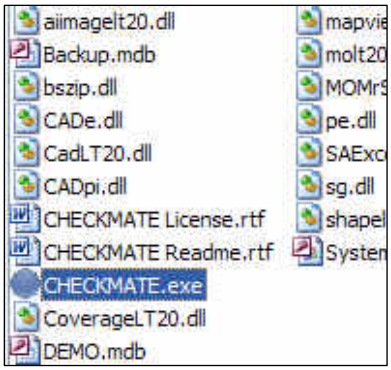
The system will **remain in Advanced Mode until you close down CHECKMATE and reopen it**.

Diagnostics Mode



To run CHECKMATE in diagnostics mode, do the following:

Browse to your *Program Files\GEOTAB\CHECKMATE* folder (or the folder you installed CHECKMATE to)

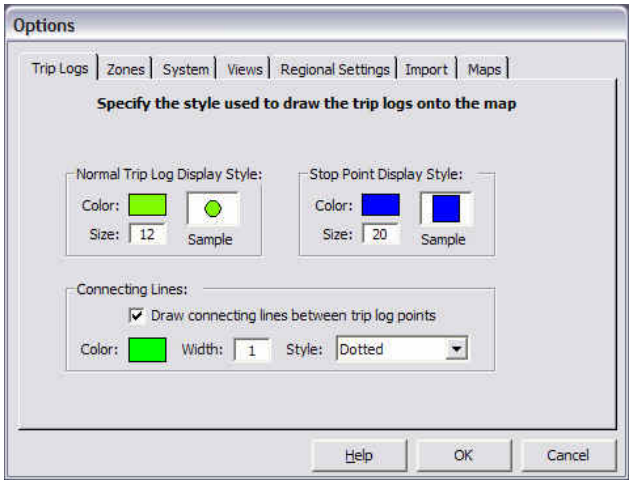


Find the file called CHECKMATE.exe, drag it to your desktop using your **right-mouse button** and choose to **create a shortcut**.

- Once the shortcut has been created on the desktop, right-mouse click on it and select the **Properties** option.
- You will be prompted with a **Properties** form. In the **Target** field, at the end of the full path (including any quotes) to the file, add in a **<space>-d** (space minus d) and click **OK**.
- Rename the shortcut to "CHECKMATE Diagnostics"
- Run CHECKMATE by double-clicking the CHECKMATE Diagnostics shortcut you have just created, and log on normally.

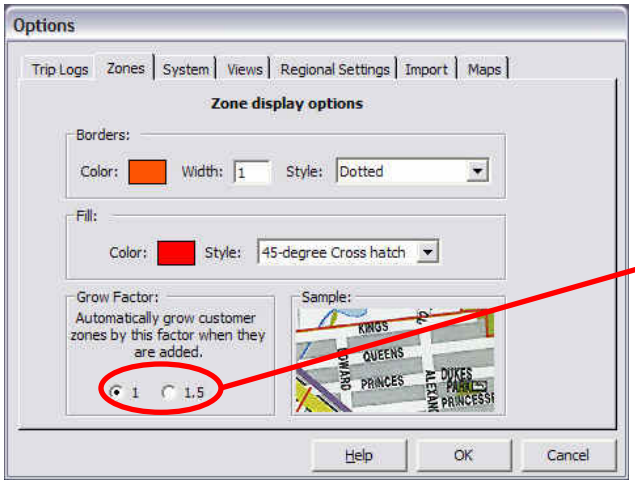
18. OTHER SETTINGS AND OPTIONS

Checkmate Options



To make changes to the default settings in CHECKMATE, go to the **OPTIONS** menu found in the **Tools** drop down menu.

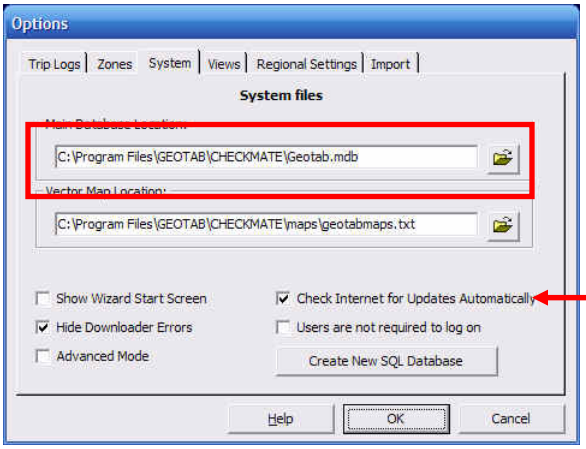
The Trip Logs screen allows you to change the color scheme of the default icons (directional arrows and stop point squares).



Go to **Options** -> **Zones** to change the appearance of zones.

Note: Click here if you want to expand the size of the non territorial zones you draw by a factor of 1.5.

Many GEOTAB users report that vehicles don't always park directly in front or in the assigned space for the fleet. Expanding the zone allows for parking close to but not directly inside the manually drawn zone.



Go to **Options** -> **System** to point to a different location for your fleet database that the default setting in the CHECKMATE folder.

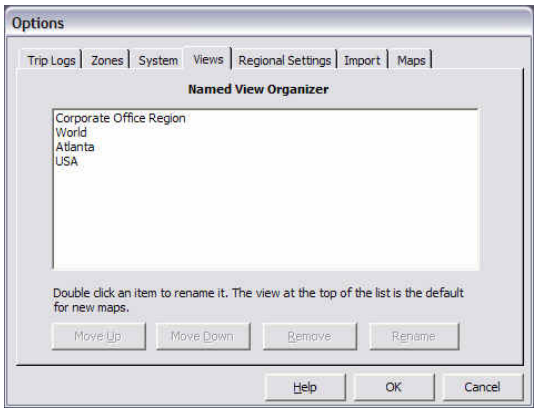
This menu is also used for creation of the New SQL Database.

If you want CHECKMATE to automatically check for updates on the Internet, ensure that the box is checked.

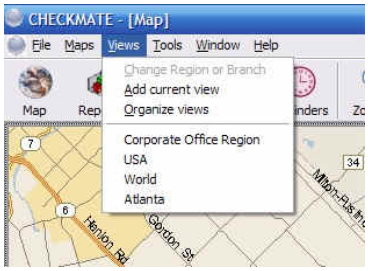
The Advanced Mode is left unselected by default. The Advanced Mode allows you to manually add vehicles or drivers; or make changes to the way the vehicle units are used (for example, enabling immobilization).

Running CHECKMATE in Advanced Mode may lead to changes to your system that may adversely affect the overall stability of the system. Only select Advanced Mode if advised to do so by GEOTAB Technical Support.

It is possible to change the default view of the map when you first click the View Trips icon.

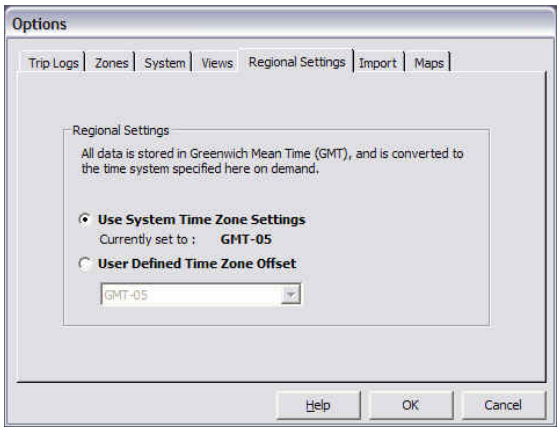


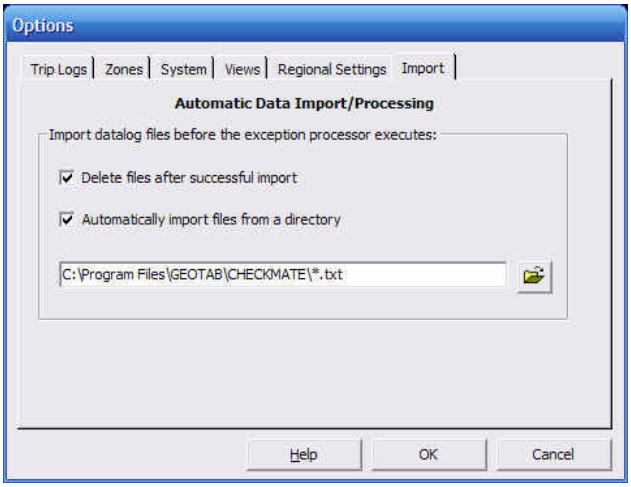
Simply open a map and use the ZOOM IN and ZOOM OUT tools on the CHECKMATE main tool bar to show the map to the level you wish to store as a view. Select **Add Current View** from the **View** drop down menu.



Name the new view. Using the **Tools** -> **Options** -> **Views** Menu, move you new view to the top of the list.

If your time settings on your reports are reflecting a different time zone, use the Tools>Options>Regional Settings Menu to change Greenwich Mean Time to your area.





To change the way CHECKMATE imports your vehicle files open **Tools** -> **Options** -> **Import** tab.

Your Key Reader software will deposit your trip data into the Program Files\GEOTAB\CHECKMATE folder on your computer. The Import file default values are to delete files after successful import and to automatically update your database with your new imported trip data files every time CHECKMATE is launched.

CHECKMATE supports Microsoft MapPoint North American and European Editions as well as ESRI-based maps for all global markets.

19. REMOVING OR REASSIGNING DRIVERS AND VEHICLES

Making a driver or vehicle historic

There may come a time when you wish to rename a vehicle description or a driver name, due to staff replacement or a change in a vehicle.

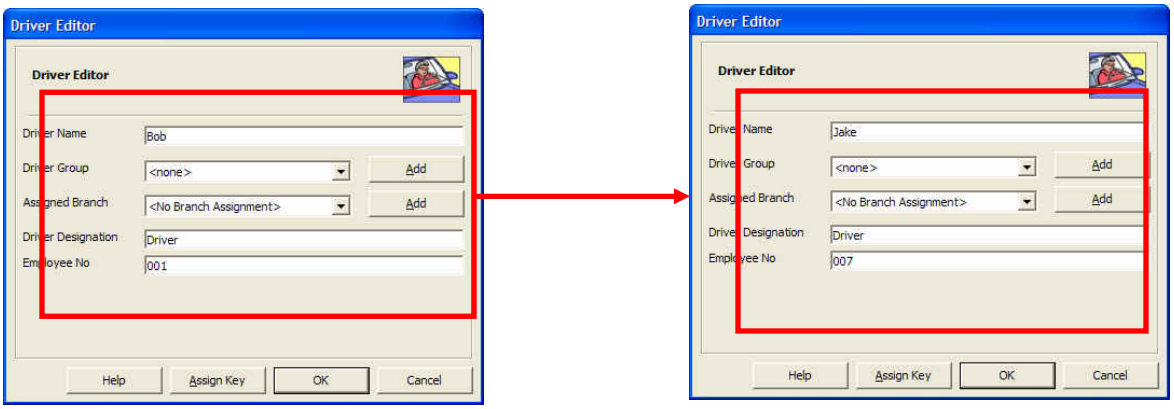
Before you go ahead and change the name, you need to consider how you want the historic data, currently assigned to the old name to be shown. If you wish for the current trip information to remain under the old name, you must make the old driver or vehicle historic. The other option, of course, would simply be to rename the vehicle or driver.

Changing a driver or vehicle name and choosing to make the past information historic effectively creates a new driver or vehicle that has the new name and keeps the old record with all the trip information still assigned to it, and marks it as historic. This allows you to continue to view the old information in reports and on maps.

Example: Replacing a Driver

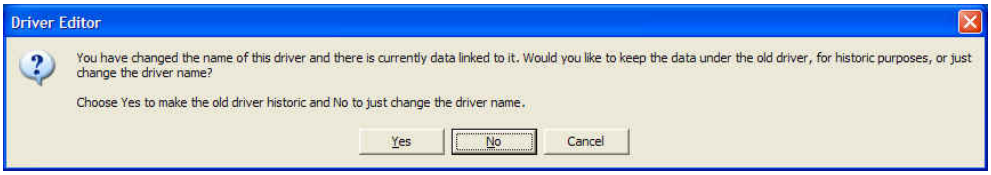
For this scenario, we have a driver (Bob) who has decided to retire to his cottage by the lake. He has been driving for the company for 20 years now and deserves a nice relaxing life. His son (Jake) has offered to take his place as the driver for the company.

Driver accountability is important to you so you want any trips that Bob has done to show Bob as the driver and the same for Jake, for historical purposes. Since Jake has taken over Bob as the driver, he gets Bob's Driver Key.

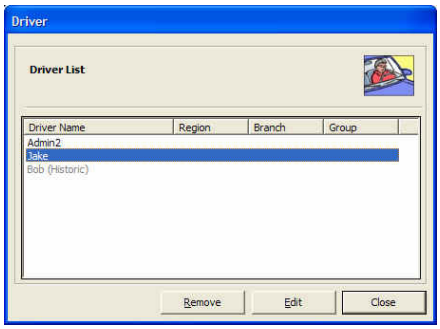


First, you need to edit the driver record for Bob, by going into the **Driver Editor** form via the Setup Wizard.

Change the **Driver Name** from Bob to Jake, modify the **Employee Number** to Jake's employee number, and then click **OK**.



At this point you will be prompted with a message box asking you whether you wish to make the old driver (Bob in this case) historical or not. Choose **Yes**.



Now you will see an additional entry in the Driver List form (for Jake), and Bob's entry is grayed out with the word Historic after his name.

Any new trip data after this point will show up under Jake's name but any old trip data that Bob did will still have Bob as the driver.

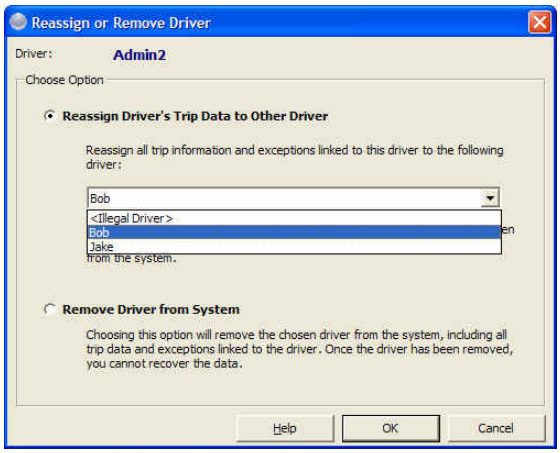
The same functionality applies to renaming a vehicle.

Deleting & Reassigning a Driver or Vehicle

Before deleting a driver or vehicle from the system you need to consider whether you wish to keep the trip information that the driver or vehicle has done. Trip information has to have a driver and vehicle associated with it, so by removing a driver or vehicle, you would have to remove the trip information too.

CHECKMATE now provides the option for you to reassign the trip data to another driver or vehicle before deleting that driver or vehicle. By reassigning, you effectively move all the past trip information for the driver or vehicle you wish to delete, to another driver or vehicle.

Important: You must only reassign trip information to a driver or vehicle that does not have any trip information currently assigned to it.



To delete a driver or vehicle, navigate to the **Driver** or **Vehicle** list, click on the driver or vehicle name and click **Remove**.

When prompted with the **Reassign or Remove Driver** (or vehicle) form, you can either select a new driver (or vehicle) to reassign the information to, or just choose to remove the driver (or vehicle) from the system.

Remember that when you remove a driver or vehicle, you remove all its trip information too!

20. FAQ'S

THE GEOTAB SOLUTION

Who can use the GEOTAB System?

Anyone or any company that wants to track the performance and activities of their vehicle fleet and drivers can use the GEOTAB system

How does GEOTAB work?

The GEOTAB vehicle unit is installed out-of-sight in the vehicle. The built-in GPS communicates with satellites orbiting the earth and records the vehicle position, speed and time. The data in the vehicle unit is then transferred to a powerful software application using either a low cost data key solution; or a wireless / GPRS solution. The software allows the user to see the trips, stops and any violations on a detailed computer map and to view instant reports that are generated using Microsoft Excel.

What questions will GEOTAB answer for my business?

- How much time are my drivers' spending at customer sites?
- How much time and how much fuel am I losing from idling engines?
- Are my drivers speeding and where?
- How long and how far are my vehicles traveling i.e. am I making full use of expensive assets?
- How much is asset abuse really costing my company?
- What time are my drivers starting work and what time are they completing their shifts?
- How many minutes of pre and post trip time are there?
- Are my drivers arriving on time for their deliveries?
- Are my drivers making unauthorized stops?
- Are my drivers running on time throughout their scheduled routes?
- How productive are my assets?
- Is there abuse in my staff overtime claims?
- Are my sales representatives keeping to the required calling rates?

What makes GEOTAB different from any other vehicle tracking system?

GEOTAB is a solutions driven company. With our expandable product platform and high level of expertise as the developers of our own products, we are well positioned to meet your requirements. GEOTAB therefore offers solutions, not just product.

Who will benefit from the GEOTAB system?

GEOTAB can be used to monitor any vehicle fleet. Some examples are:

- Trucking
- Delivery
- Security
- Rental
- Leasing
- Service

- Sales
- Contracting
- Recycling
- Waste Management
- Personal use

GEOTAB has also been used on:

- Rail trucks
- Trailers

Why is GEOTAB defined as a productivity solution for your business?

GEOTAB will not only help you to clamp down on vehicle abuse and costs but it will also encourage the drivers to enhance their productivity. Fuel usage can be halved in some instances by simply assessing the driver's routes, unnecessary stopping points, idling times and or over-revving. GEOTAB provides the user with:

- Activity Reports
- Customer Visits Reports
- Exception Rule Reports (shows what rules were broken)
- Risk Management Reports
- Speed Profile Reports
- Trip Lists Reports (electronic log book)
- Engine Idling reports
- Accident reports
- Delivery reports and many more…

GEOTAB also develops customized reports for customers. These reports are developed by us and are simply emailed to the customers on demand and easily integrated into the GEOTAB software.

What size does my fleet need to be to use GEOTAB?

GEOTAB can be used on any sized fleet from 1 – 100,000 vehicles. The smaller fleets can run on Geotab's Access platform while the larger fleets on Geotab's SQL platform.

Can I run my nation wide business on the GEOTAB system?

Yes, Geotab's SQL platform supports a three tier hierarchy where the national fleet can be monitored and controlled at branch, regional or central head office level. The data from the vehicles are downloaded on to one central server. Branches will have access to their vehicles only, regional offices will have access to all the vehicles in their regional branches only and central head office access to the entire national fleet.

THE VEHICLE GO UNIT / GO KEY

When I turn my ignition on I hear 3 beeps!

The unit will beep 3 times when it is powered up. If you hear these beeps when you turn your ignition on, either the vehicle battery is very low and needs to be changed (voltage drops

too low on ignition start-up); or the unit has not been wired in correct and you need to check the installation.

When I turn my ignition on, the LED continues to flash and I am not getting trip data!

When the LED is constantly flashing, the unit is no download mode and will not log any trip data. This is the normal state when the ignition is off. If, when you turn the ignition on, it continues to flash, the unit wiring has not been correctly connected to the switched ignition. Check your installation.

When I turn my ignition on, I hear 6 beeps!

When, after the ignition is on, your unit beeps 6 times, this indicates that the antenna is unplugged. Check your installation.

Sometime after I have turned my ignition on, I hear a long beep!

A long beep after ignition on indicates that the unit has latched onto satellite. This only occurs in vehicle test (debug) mode. Turn off vehicle test mode by inserting any key when ignition is off and LED is flashing.

When I am driving I hear a beep every now and then!

The unit will beep each time it logs, when in vehicle test (debug) mode. Turn off vehicle test mode by inserting any key when ignition is off and LED is flashing.

When I go over a certain speed, my unit starts beeping rapidly and only goes off when I drop my speed!

Your GO unit has been programmed with a speed warning. The GO unit can be programmed to warn the driver when a specified speed is reached by beeping rapidly, and will cease its beeping when the speed drops below another specified speed. Ask your fleet manager about this, he can reprogram the unit if necessary.

I do not hear any beeps when I insert a key, and the LED is off!

This could either indicate that the unit has no power; or the ignition is on. Check the unit installation wiring and ensure that the ignition is off.

I hear 4 beeps after downloading to a key!

Your GO unit can store double the trip records than your GO key can. If your GO unit has more trip data than the key can hold, the key will fill up, beep 4 times to indicate that you can remove the key, but need to insert another one. Take a new blank data key or download that key to the computer, and insert it into the vehicle unit, to retrieve the rest of the trip data.

I hear a constant tone when I insert a key

This indicates that either the key is faulty or the unit is faulty. Contact your local GEOTAB reseller to investigate further.

How do I determine if my GO unit is in debug mode?

You can determine if the unit is in vehicle test (debug) mode by grounding any auxiliary or switching the ignition. When in debug mode, each time the unit logs a record (an auxiliary gets grounded, ignition state changes, or unit logs a trip record), the unit buzzer will chirp. If you don't hear anything when you, for example, turn the ignition on or off, the unit is likely not in debug mode.

I inserted a key to download data, but I cannot see my trip data in Checkmate

There are several steps to transferring your trip data from your vehicle to Checkmate. Ensure that you have followed these steps, in the same order:

- Insert driver data key into unit until you hear a double-beep
- Insert same key into GEOPORT Downloader, until you hear 6 double-beeps
- In Checkmate, click the Update button on the main toolbar
- In the Update Wizard, choose **Next** -> **Finish** (this will start the import and processing of your data, based on the default settings)
- When the update is complete, your trip data will be available in Checkmate

If you have followed all these steps but you still don't see your trip data, consider the following:

- Is my key a driver data key?
- Did I insert my key into the vehicle unit housing when the LED was flashing?
- Did I only remove the key when I heard a double-beep?
- At the computer, is the GEOPORT Key Reader icon showing in the system tray with a green arrow, before I inserted my key?
- Did I only remove my key after I heard the 6 double-beeps?
- Did I correctly run the Update Wizard?

I have RF but I cannot see my vehicle's trip data in Checkmate

There are a number of factors that could influence your RF data transfer. The two most important factors to consider is whether your vehicle is within range to the RF base station or not; and whether the GEOPORT RF base station is connected, with the service running.

For more information on what is happening, you could view the log files that get generated daily by the GEOPORT RF server. These can be found under Program Files\GEOTAB\GEOPORT RF. Each log file will be named the current day with a 'log' extension. You can use Notepad to view the data. These log files give useful information as to which vehicles were communicating with the base station, what data was downloaded / uploaded, and whether the service is running or not.

I downloaded my trip data to a key but lost the key before I could upload it to the computer. Is it possible to retrieve that data from the unit?

The best way to recover trip data from a unit is to use the **Extract Data Wizard** on the **Setup** form in Checkmate. This wizard will guide you through in creating a **Lost Data** key (same place to create an **Accident Data** key). This key must be inserted into the specified vehicle key housing, which will program the unit to give the next data key all its data. After that, insert a driver data key and all trip information will be uploaded. You will hear 4 beeps once the key is full, at which point you should insert another data key, to get the rest of the trip data. After that, download and process the two data keys like you normally would, and your trip data will be in the system.

The unit will be taken out of memory dump mode after you have done one full, successful upload to two keys.

I found a key with no tag or label, how do I identify who the key is assigned to?

In Checkmate, click **Tools** -> **Key Information**. When the window loads and the downloader status indicates a connected downloader, insert the key into the GEOPORT Downloader. Checkmate will read the key and display the key type and who it is currently assigned to, in the window. Remove the key and then close the form when you are done.

I have not downloaded my vehicle in over a month, will I still be able to see my recent trip data?

Yes you will. A GO unit can store up to approximately 10,000 km's of trip data before it starts overwriting the oldest data.

When I start the vehicle, it beeps continuously! What is happening here?

This behavior usually indicates that the vehicle's immobilization feature has been enabled (without the immobilization harness installed in the vehicle). The GO unit will beep continuously if started without first inserting a valid driver GO key. Turn the ignition off, insert your blue GO key, then start the vehicle within 30 seconds.

INSTALLING THE SOFTWARE

I am installing GEOPORT RF and I am prompted with an error message stating that it cannot install the Microsoft .Net Framework!

GEOPORT RF requires the Microsoft .Net framework version 1.1 to be installed in order for it to work. The installation process will attempt to connect to Internet to obtain the framework and install it but this may fail. If you do get the error message, cancel the installation and install the framework first. This can be obtained from either www.microsoft.com/net or www.geotab.com/downloads or on the Checkmate CD under support. The file is usually called dotnetfx.exe.

I am installing Checkmate and it says something about not having the right permissions!

Before you install the software, you must ensure that your Windows user (who you have logged on as) has full administrative privileges. Refer to your Operating System help for more information on this.

GEOPORT DOWNLOADER

I have connected my GEOPORT Downloader but it does nothing when I insert a key?

A GEOPORT Downloader has to have 2 components correctly installed, before it will function: installation of device drivers; and installation of GEOPORT Key Reader. Refer to the installation section for more information.

My icon is missing from the System Tray!

If the GEOPORT Key Reader (software) is closed, the icon won't be visible in the system tray. To load it, click **Start** -> **Programs** -> **GEOTAB** and run the **GEOPORT Key Reader** shortcut.

My system tray icon shows a red X!

This usually means that the GEOPORT Downloader has not been attached to the computer, or that the device drivers have not been installed. Refer to the Installation section for more information.

Why can't drivers download to the computer when I am not in the office?

The GEOPORT Key Reader is a program that has to be running in order for the Downloader to work. If you shut your computer down when you leave, the Key Reader will not be running. Ensure that you leave your computer on and the **GEOPORT Key Reader** application running so that the drivers can download their keys.

GEOPORT RF DOWNLOADER

My GEOPORT RF base station is connected and the software is installed and running but the green ON light is off!

When a computer can't provide enough power to the USB port that the RF base station is attached to, the green ON light will not be on. You can either remove other USB devices that may be taking too much power; or you can use a powered USB hub.

My GEOPORT RF base station ON light is on, but it doesn't work when I have other USB devices attached.

Sometimes, there is enough power to get the ON light functioning but still not enough to power up the RF engine. You can either remove other USB devices that may be taking too much power; or you can use a powered USB hub.

I see communications between my vehicle and base station but the console only shows a red line and there is no trip data in Checkmate

A Red line in the console usually indicates range issues, i.e. the vehicle is too far away from the RF base station. Try bringing the vehicle closer or repositioning the RF antenna on the base station; or move the GEOPORT RF computer closer to the vehicles.

There is no communication between my vehicle and RF base station, whatsoever!

There can be any number of factors that could influence the functioning of the RF system. Consider the following points:

- Is my GO unit RF-enabled?
- Is the RF antenna in my vehicle in a correct position?
- Is my GEOPORT RF Downloader connected to the computer?
- Is the RF antenna on the GEOPORT RF Downloader in a correct position?
- Is the green ON light on the GEOPORT RF Downloader on?
- Is the GEOPORT RF service running?
- Does the GO unit exist in Checkmate?
- Is there any activity in the GEOPORT RF log files?

If you checked that each question above has been answered with a yes, review the RF installation process to ensure that you haven't missed something out.

CHECKMATE

I want to enable immobilization, speed buzzer or RF but I do not see the options in the vehicle form!

In order to see those advanced features, Checkmate must be in Advanced Mode. Choose **Tools** -> **Options** -> **System** tab, and check the **Advanced Mode** option. Then go back into your vehicle editor and you will see the options.

When I launch Checkmate, it tells me that MapPoint is not installed, but I have installed it?

To check if MapPoint is installed correctly, run MapPoint independently. Run through the full registration process until you see a map. Close down MapPoint and launch Checkmate.

I have downloaded my key but do not see any trip information for that vehicle!

Once you have downloaded your key to the GEOPORT Key Reader, you still have to import that trip data into Checkmate. You can do this by clicking the **Update** button on the main toolbar in Checkmate, and follow the default settings.

When I move my mouse over a trip log on a map, it says 'unprocessed'! What does that mean?

Unprocessed data is data that has been imported into Checkmate but has not been applied to rules yet. This usually indicates that the data is currently being processed. Wait a while and then try again. If the data still indicates that it is unprocessed, run the **Update** button on the main toolbar in Checkmate, and follow the default settings.

I can see my zone in the zone list but I can't see it on the map!

When you create a zone, you have a choice of stating whether that zone is normally visible or not. If you choose to make the zone normally invisible, you won't see the zone on the map. You can change the option by editing the zone in the zone list, or by changing the **Zone Display** menu option under the **Maps** menu item, to **Display All Zones**.

I have just created an exception rule and I know my vehicle has broken that rule but it is not showing it as an exception!

When you create a rule, that rule does not automatically get applied to your existing data, only new data from that point on. You can reprocess your existing data for that rule by choosing the **Update** option on the main toolbar in Checkmate, choosing **Custom** when prompted, and specifying the necessary rules and vehicles.

I have a message asking me to restart my Checkmate so that the updates can be applied?

When you launch Checkmate, it checks the Internet for any new updates. If some are found, it downloads them automatically and then prompts you to restart your Checkmate, in order for those new updates to be applied.

GEOPORT RF CONSOLE

Why is the Settings button on the GEOPORT RF Console disabled (grayed out)?

The Settings button will only be enabled when the GEOPORT RF service is running. Click the Start button in the console to start the GEOPORT RF service.

I have installed GEOPORT RF with the Microsoft .Net Framework but when I go into the console and click Settings, my computer freezes!

It is very possible that you are running a firewall on that computer. GEOPORT RF uses TCP port 51234 to communicate and if you have a firewall, you will need to open up this port. Please consult with your IT department / IT professional to determine whether you are running a firewall or not, and how to open up port 51234 on the firewall.